naval aviation news


MARCH 1981


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**The first F/A-18 at Fighter Attack Squadron 125, NAS Lemoore sits alone in the hangar shortly after ceremonies forming the first Hornet squadron November 13 last year.**
(Photo by PH1 Terry Mitchell)

# naval aviation news

**Sixty-Third Year of Publication**

**Vice Admiral W. L. McDonald** Deputy Chief of Naval Operations (Air Warfare)

**Vice Admiral E. R. Seymour** Commander, Naval Air Systems Command

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*COVERS– Front, LCdr. Dick Fleming and Plane Captain AMSAN Walt Mitchell of VX-4 confer following a test flight of the F/A-18 at NAS Patuxent River, Md. Back, an F/A-18 at Patuxent River shows angles and shapes in a backlighted scene. (Photos by JOC Kirby Harrison)*

**Features**



**Departments**




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From the

# EDITOR'S NOTEBOOK

Above, Ens. William D. Billingsley, first Naval Aviator to be killed in a flying accident, and the wreckage of his Wright hydroaeroplane.

## Taking Things for Granted

What Naval Aviator would dream of climbing into the cockpit of a modern aircraft and roaring off down the runway without first strapping himself in? Unthinkable? You bet your sweet bippy! Strapping in is as basic and automatic as bending one's legs to sit down. One act naturally precedes the other. Naval Aviators have *always* done it since the first aeroplane was accepted back in 1911 – right? Well not exactly. But an incident involving two early Naval Aviators is often credited with having produced the idea.

Back when Naval Aviation got its start, even the seat belt had not been invented and no one had given much serious consideration to the matter. The Navy's hydroaeroplanes, as they were called, flew at speeds of something less than 50 miles per hour and the existence of thermal drafts and other forms of turbulence was only vaguely suspected. There was talk of "air pockets" and other such unsettling phenomena but, in the very early years, knowledge of these things was sketchy at best.

Some of the first hydroaeroplane pilots must have wondered whether it might not have been a good idea to tie the pilot to the airplane in the event of unscheduled contact with the water. But, if they did, there would have been a natural tendency to reject the idea on the grounds that one would not want to become entangled in the wreckage and drown.

But something occurred in 1913 which caused people to have another look at the problem. On June 20 of that year, Ensign William D. Billingsley, Naval Aviator #9, was flying his Wright hydroaeroplane out over the Chesapeake Bay on a routine flight. His passenger was John H. Towers, Naval Aviator #3, and they were both seated out in front of their flimsy machine, much as they would sit in straight-backed chairs around the kitchen stove at home. There was nothing whatsoever to hold them in place.

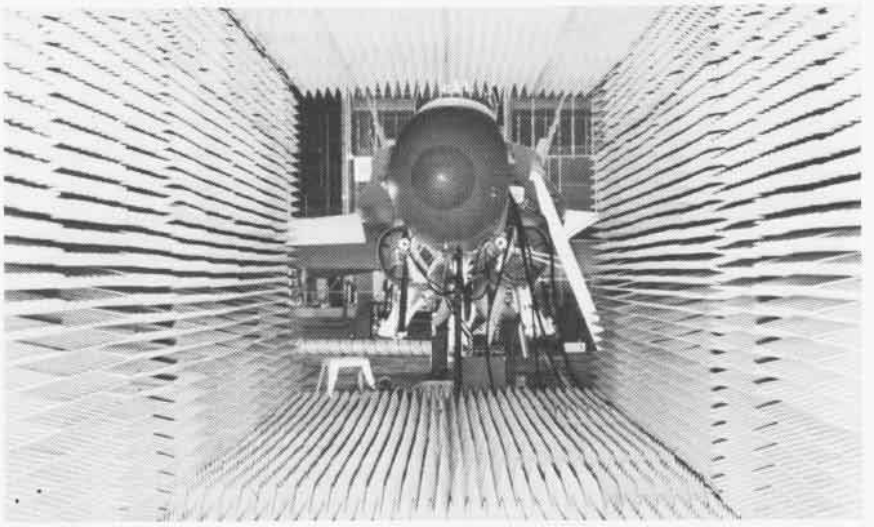
Suddenly, a violent draft of air struck the fragile craft and both pilots were thrown from their perches. Billingsley fell to the water below and was killed on impact. Towers grabbed onto a strut and hung on for dear life. He fell with the aircraft, which turned over in the air and landed on top of him, as he struck the water. Dazed and badly injured he managed to cling to the aircraft until he was rescued.

During a three-month stay in the hospital, Towers related the circumstances of the accident to inventor Glenn H. Curtiss, who devised a simple belt which could be used to secure the pilot to his seat. It was an idea that eventually caught on, although there were undoubtedly some diehards who thought it demeaning or too confining.

Billingsley was the first Naval Aviator to be killed in a flying accident. His death is generally recognized as the reason Naval Aviators began to wear seat belts, simple equipment we all take for granted.

# DID YOU KNOW?

## Beam Bombardment



At the Naval Air Test Center, Patuxent River, electromagnetic radiation is beamed at aircraft through an anechoic chamber. The tests measure the degree of sensitivity of the aircraft's sophisticated electronics in overcoming electromagnetic interference similar to that generated by an aircraft carrier's antennas, radar, navigation gear and communications equipment. Photo shows *Hornet* at the business end of an anechoic chamber.

## New Maverick

A new version of the combat-proven *Maverick* air-to-surface guided missile will add to the sea and ground target attack capabilities of the U.S. Navy air arm. The Navy Infrared (IR) *Maverick*, now under development at Hughes Aircraft Company, will be a low-cost weapon that will be effective against all but the largest naval targets.

The missile's range will permit flight crews to launch it beyond enemy air defense perimeters and, after launch, the flight crew is immediately free to take evasive action or to fire successive missiles at other targets. The survivability of the attacking aircraft will be further enhanced by the ability of the aircrew to approach the target and launch the *Maverick* at very low altitudes, minimizing detection by enemy radar. Infrared guidance will permit the IR *Maverick* to be launched day or night and in low visibility weather conditions.

Delivery of the first of 7,000 Navy IR *Mavericks* is planned for 1985. The missile is expected to be operational on the Navy's A-7s first, with integration on the A-6 and F/A-18 to follow.

## New F-14 Mockup at SITS Lab

A second F-14 frame has been added to the systems integration station (SITS) at Point Mugu, Calif., which increases SITS laboratory capability for F-14 weapons system research, development, test and in-service engineering of airborne tactical software.

Projects like the television control set, improved *Phoenix* and *Sparrow* mis-

sile systems and weapons systems software have all required development, verification and validation using actual aircraft components in the controlled environment of a laboratory. With skyrocketing aviation fuel prices and the need to reduce energy consumption, identifying and resolving all possible problems in software performance and integration prior to actual flight testing becomes imperative.

Problems in the F-14 weapons control systems discovered by fleet squadrons often require immediate response to insure high operational readiness and mission-capable aircraft. Therefore, the SITS lab must be fleet-configured, accurate, accessible and ready. The flexibility of two SITS frames will help achieve that goal.

## CNATRA Meets Winging Goal

Commander, Naval Air Training Command, headquartered at NAS Corpus Christi, Texas, met the pilot training goal for FY 80 which was established by the Chief of Naval Operations. Wings of Gold were earned by 1,471 new pilots of helicopter, jet and propeller aircraft. The goal set for 537 new Naval Flight Officers was also achieved.

## First Flight of Production CH-53E

The first production triple-turbine, seven-bladed CH-53E *Super Stallion* made its initial flight on December 13 at the Sikorsky Aircraft plant in Stratford, Conn. The 35-minute flight consisted of a series of hovers and aerial maneuvers to evaluate control and handling characteristics. The aircraft was officially accepted by the U.S. Navy on December 17 and is being manufactured for the Marine Gorps under a Navy contract with Sikorsky.

The new *Super Stallion* is now in the manufacturer's flight test program to substantiate production design improvements. Following the completion of these engineering tests, the helicopter will undergo flight testing at NATC Patuxent River. Fleet deliveries will begin in mid-1981 with HMH-464 at MCAS New River, N.C., receiving the first.

The CH-53E is equipped with one of the most advanced helo automatic flight control systems. It can lift a 16-ton payload over 50 nautical miles or greater loads over shorter distances. Both the Navy and the Marine Corps will use the aircraft for extensive heavy lift operations, including the retrieval of other airplanes and helicopters. It can transport 93 percent of Marine Corps equipment and can support the logistics of a forward-based AV-8 *Harrier*


squadron. Navy missions include ship-to-ship and ship-to-shore logistics, support of mobile construction battalions and airborne mine countermeasures units. It can self-deploy more than 1,000 nautical miles and inflight refueling capability gives it an unlimited range.

# Grampaw Pettibone

## The Blade Connection

Two CH-53Ds and one CH-46 were to engage in an external lift of hulk vehicles to and from a confined area pickup zone. Helicopter aircraft commander (HAC) of helo Dash 1 briefed the flight to proceed as three individual units under his control as mission commander. Each HAC then conducted individual crew briefs. Taxi and takeoff sequence were not briefed. Dash 1 HAC was delayed in operations for a last-minute brief and tasked his copilot to brief the crew and preflight the aircraft. The Dash 1 copilot complied. He also instructed the crew chief to re-spot the CH-53 for more rotor blade clearance during the turn-up. When the HAC arrived at the aircraft, he performed a cursory inspection and decided that the re-spot was unnecessary.

After engine start and pre-taxi checks were completed, a mechanic on a nearby helicopter anticipated Dash 1's need for a taxi director and positioned himself accordingly. After receiving taxi clearance, Dash 1 began rolling forward under control of the taxi director, increasing its speed once established on the taxi line. The taxi director saw that he was no longer needed and, in fact, was being forced to run backward to avoid being run over by the aircraft. He rendered an informal salute to indicate termination of his taxi direction. Dash 1 HAC acknowledged the salute.

The direction of taxi placed the sun at the pilot's 11 o'clock position, 10 to 15 degrees above the horizon. Dash 2 was parked facing in the same direction, with rotors turning, in the center of a painted H-2 ramp parking circle located 64 feet right and 150 feet ahead of Dash 1's taxi line. The Dash 1 HAC taxied to the left of this


line as he approached Dash 2, to provide what he considered a margin of safety. No taxi director was present. The crew chief was occupied with preparing the cargo pendant in the aft section of the cargo compartment. The first mechanic was looking out the left gunner's window. The copilot noted that the blade tip clearance was going to be close, but made no comment to the HAC who was talking on the radio. As Dash 1 passed abeam Dash 2, the main rotors of the two helos suddenly intermeshed. Both aircraft immediately began to oscillate violently, knocking the crew about, as flying blade fragments sprayed the area. All aircraft were immediately shut down and the aircrews egressed without serious injury.

**Grampaw Pettibone says:**

**Holy rotatin' razors. This close a shave gives old Singed Whiskers a real rash!**

**In addition to plain old pilot error, Gramps smells a little contributory negligence in this, along with some supervisory error thrown in just for luck (all bad).**

**The fact that the copilot did not issue a warning, the crew chief was busy in the cabin, the taxi director released the aircraft while in a congested area, and the pilot's primary concern was with a radio transmission instead of his aircraft, indicates not only poor crew coordination but general incompetence.**

**Facts concerning the marginal**




ILLUSTRATED BY Osborn

performance of this pilot as a HAC were well known to squadron supervisory personnel for some time but, due to a shortage of aircraft commanders, he was kept on the job. Gramps totally agrees with one endorser who stated: "When your HAC cannot hack it, it's high time his qualification be reevaluated!" Additionally, a copilot who sits idly by and allows his pilot to taxi into a parked helo without speaking up – even though he had just been reproved for antagonistically challenging the pilot over alterations to the pre-start checklist – is more kindergarten than professional.

This deviation from Natops and good sense directives, to engage in a childish act of kiddie bumper cars, resulted in needless, but significant, damage to two CH-53Ds, four CH-46Fs and minor injury to two crew members.

You can rest assured that this "Blade Connection" is no novel by Moore. It ain't novel at all!

## And Now for My Next Act

A young but experienced Naval Aviator and an observer were scheduled for a practice naval gunfire spotting mission in an OV-10A *Bronco*. The mission was properly briefed and a thorough preflight was conducted by the pilot. The takeoff, climbout and flight en route to the target area were normal and uneventful in all respects. When they arrived in the operating area, the ship was weighing anchor to position herself for practice firing.

The pilot had the observer request permission to make a recognition pass and this was approved. A roll-in was commenced at about 3,700 feet. A pullout was initiated, followed by a climbing left-hand turn. On reaching altitude, a second run was commenced. On this pass, the dive was continued to 50 or 60 feet and a pullout was initiated, followed by another left-hand turn. The pilot then directed his observer to get permission to fire the machine guns to demonstrate a practice firing run. On receipt of clearance, a third run was commenced from an altitude of approximately 2,000 feet, using a shallow dive angle. At an altitude of 400 to 500 feet and an airspeed of 150 to 160 knots, a pull-up was commenced. With the nose of the aircraft about five degrees above the horizon, airspeed about 130 knots and an altitude of 700 to 800 feet, a roll was performed.

As the pilot completed the roll, the aircraft rapidly lost altitude. In a level attitude, but still descending, it struck the water and pitched sharply nose down and to the right. Just prior to impact, the observer ejected. The pilot received fatal injuries.

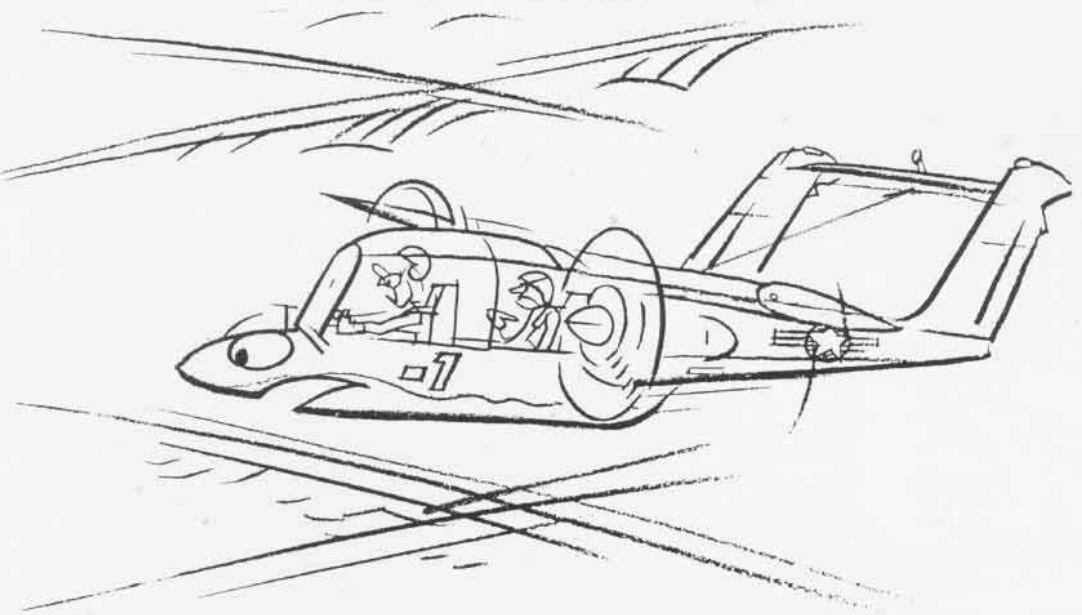
Grampaw Pettibone says:

Holy Hannah! What a show! Yes sir, must be really great to show those shipboard fellas a really great air show with a lot of professionalism!?? Bet there were a coupla fellas on board who even *had* considered flight training – at one time!

Just about every time I think I've seen the last of this type of Delta Sierra maneuver, I see it again.

Young aviators readin' this article, lend me your ears. No matter how great the temptation to "show off" – DON'T. If you survive the maneuver (and most haven't), you'll face the long green table . . . believe me.

(Reprint from *NANews*, July 1974.)



# Training the Hornet

On November 13, 1980, Hangar #1 of Light Attack Wings, Pacific, NAS Lemoore, Calif., was abuzz with activity. The *Rough Raiders* of Fighter Attack Squadron 125 (VFA-125) were about to take their place in Naval Aviation. The ceremony that followed was a commemoration of four years of dedicated effort to build a *nest* for the Navy/Marine Corps' newest and most unique tactical training unit.

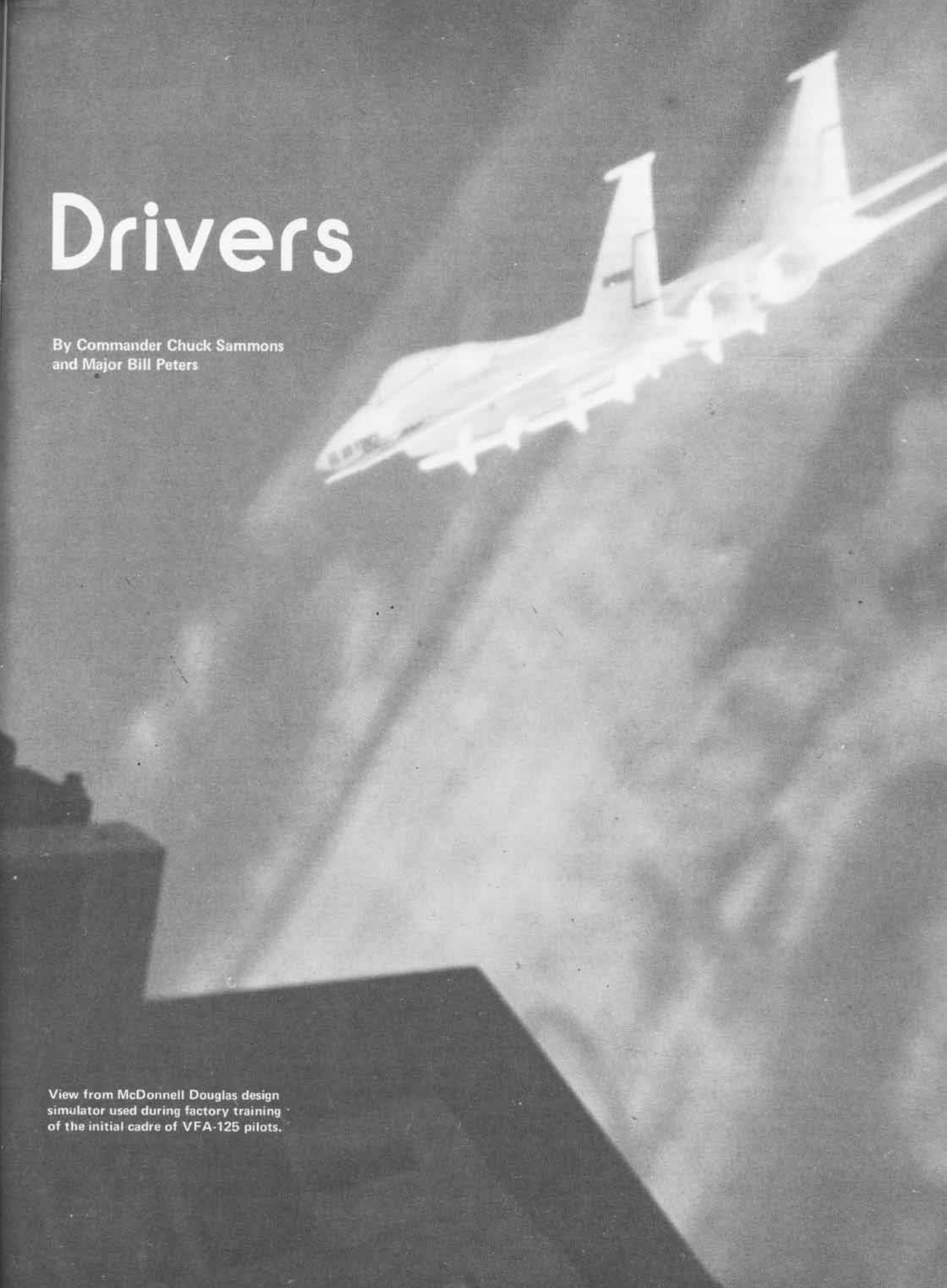
VFA-125 is a reestablishment of the previous A-7B Fleet Readiness Squadron VA-125, which was decommissioned in October 1979. It is the first of three planned F/A-18 Strike Fighter Readiness squadrons. VFA-125 is not yet up to full personnel strength but the initial cadre of *Rough Raiders* represents some of the finest talent available in Naval and Marine Corps Aviation. Prior to commissioning, it was an integral part of the F/A-18 fleet introduction team.

The squadron will be equally manned by USN/USMC officer and enlisted personnel with a Navy commanding officer and Marine Corps' lieutenant colonel executive officer. Its mission is to transition and train replacement pilots and maintenance crews from fleet Navy/Marine Corps F-4 *Phantom* and Navy A-7 *Corsair* squadrons in the F/A-18. When the VFA-125 nest is at full strength, it will contain 75 officers, 600 enlisted and 60 *Hornets*.

The second Fleet Readiness Squadron, VFA-106, is programmed for NAS Cecil Field, Fla., in mid-FY 84 to conduct joint USN/USMC aircrew and maintenance training

# Drivers

By Commander Chuck Sammons
and Major Bill Peters



View from McDonnell Douglas design simulator used during factory training of the initial cadre of VFA-125 pilots.

for AirLant units. A third squadron is in the planning stages for activation in FY 86/87 at MCAS Yuma, Ariz.

Vice Admiral Wesley L. McDonald, Deputy Chief of Naval Operations (Air Warfare), guest speaker at the VFA-125 commissioning ceremony, said of the F/A-18 *Hornet*, "It promises to be the finest aircraft we have ever had in the Navy or Marine Corps . . . . Hopefully, it will ensure that we maintain the cutting edge we have over the Soviets in whatever arena they care to exploit . . . ."

Lieutenant General William J. White, USMC, Deputy Chief of Staff for Aviation, praised the close working relationship between the Navy and Marine Corps which has characterized the F/A-18 program at all levels. "It is no secret," he said, "that the Marine Corps has waited for a new fighter aircraft for almost a decade. However, considering the versatility of the F/A-18, the wait has been worth it."

To some, it may appear that we have gone full circle in the fighter concept. The role envisioned for the F/A-18 may seem similar to that of the F6F and F4U strike fighters of earlier days. However, the complexity of machines and sophisticated threats makes the task of today's strike pilot broader and more technically challenging.

The *Hornet* will pack quite a "sting." The aircraft is a single-place, all-weather, medium-range, lightweight fighter and light attack aircraft. "It is an ideal complement to the extended range capability of the F-14 fighter interceptor aircraft," said VAdm. Robert F. Schoultz, ComNavAirPac.

The *Hornet* was designed as a multimission aircraft from day one. The fighter and attack versions have developed and grown to be identical aircraft in all respects except for ancillary equipment. At the squadron level, the fighter aircraft can be reconfigured to the attack role in less than one hour.

For the attack mission, two air-to-ground sensor pods replace the two *Sparrow* missiles on the fuselage corner stations. One pod houses the laser spot tracker and the strike camera. The other pod contains the forward looking infrared set. The laser spot tracker searches an extended area ahead of the aircraft both day and night, detects a target being designated by a laser, and provides accurate steering commands for a first-pass attack. The strike camera mounted in the aft portion of the laser sensor pod photographs the target area before, during and after weapon impact. The infrared pod provides a video picture of the lower forward sector ahead of the aircraft so the pilot can locate, identify, and track ground targets and release weapons both day and night and during some conditions of weather-impaired visibility.

The cockpit is the most advanced design ever and is specifically designed to reduce the pilot's mission workload through function integration. This state-of-the-art cockpit introduces several new concepts and terms such as CRT, HUD, UFC, and HOTAS.

Three cathode ray tubes (CRTs) are utilized for system displays. System and weapon controls are selected using the 20 push buttons surrounding each CRT – all of whose functions are interchangeable. System automation and control integration are designed to maximize the pilot's efficiency and provide a continuous lookout capability using the head-up display (HUD) and the up front controls (UFC).

Above, a flight of the first F/A-18 Hornets during test trials at NAS Patuxent River, Md. Right, domed visual scene viewed from the weapons tactics trainer.

HOTAS (the acronym for hands-on-throttle-and-stick) provides the capability to operate the system or change combat modes without the pilot taking his hands from the control stick or throttle. This permits the pilot to deliver an air-to-ground weapon and, as he pulls off target, have the immediate capability to call up a defensive air-to-air missile or gun selection without taking his eyes off the target or bogey.

The comment frequently heard is "Isn't this too much for one pilot to handle?" The 100-plus pilots who have flown the *Hornet* say no. They feel that the F/A-18 cockpit is the finest ever designed, by pilots for pilots.

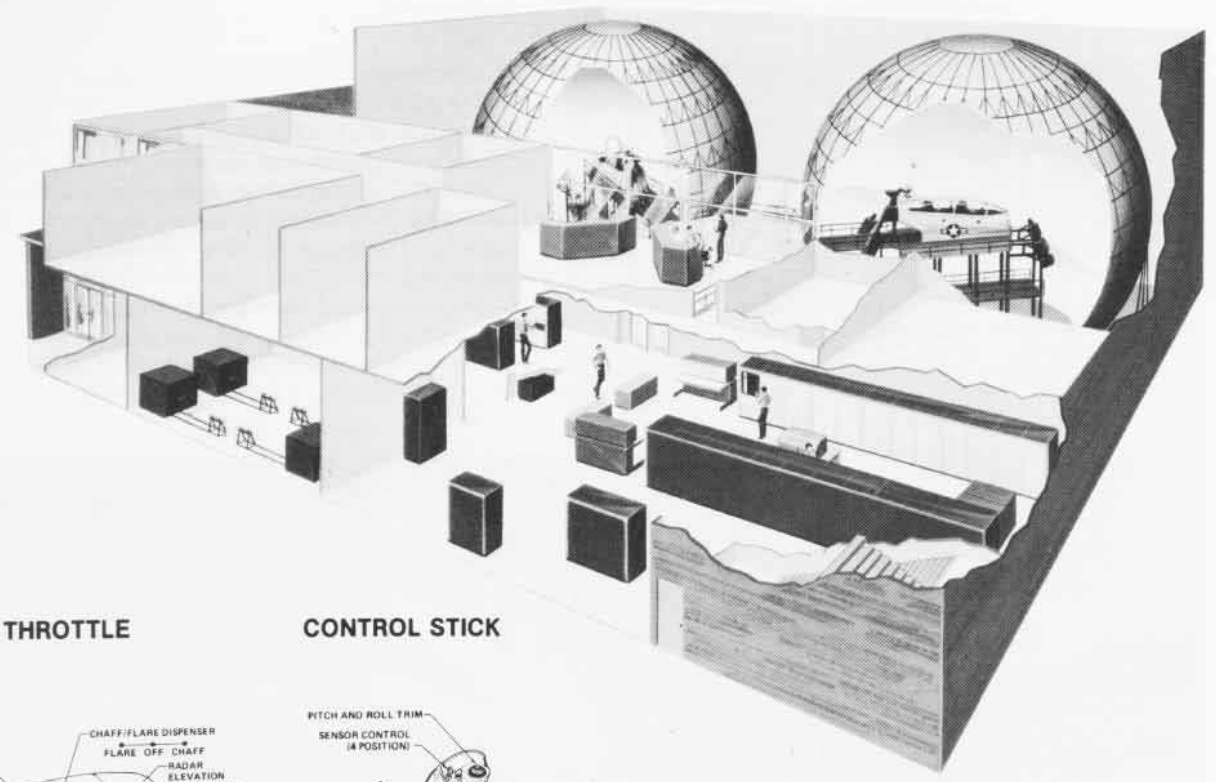
From the beginning of program development, a team of operational fleet and test pilots has served as an aircrew system advisory panel with the primary task of providing

user inputs to the design, equipment, and human factors engineers. Each piece of equipment in the aircraft has been tested many times in the McDonnell Douglas flight test simulator by the team. The HOTAS concept is one result of this team's efforts.

During an interview, Vice Admiral George E. R. Kinnear II, ComNavAirLant, commented: "The F/A-18 is a very sophisticated machine, but don't think for one minute you can get away with using a lesser quality pilot. The F/A-18 driver *must* be better trained to handle that aircraft!"

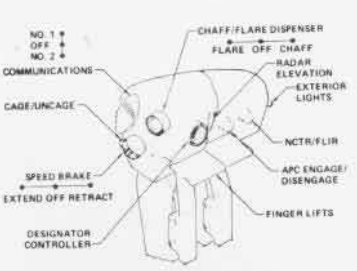
"There is little question that training is the key to success," said RAdm. G. L. "Corky" Lenox, ComLAtWingPac. "To get the most out of his aircraft, the F/A-18 pilot will have to acquire and combine the skills of the attack pilot, the fighter pilot and the radar intercept officer." This is no small task.

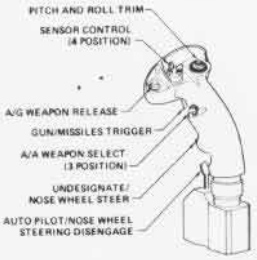
The F/A-18 navy training plan designed to achieve this result has been under development for the past three years. It provides for aircrew training that includes platform lectures, workbooks, sound slides, video tapes, and computer-generated instructions integrated with part task trainers, flight simulators and aircraft. Instructional media is currently in production by McDonnell Douglas for delivery to VFA-125 by August 1981. "Small group try-



THROTTLE

CONTROL STICK




**Above, cutaway view of the weapons tactics trainer. Left, schematic views of stick and throttle showing HOTAS functions incorporated into the part task trainer. Below, F/A-18 cockpit showing cathode ray tubes with alphanumeric displays.**

outs" are being conducted on the lessons as they are developed.

Computer-assisted instruction plays an important role in linking academics to hands-on training. Information displayed on the cockpit cathode ray tubes is easily duplicated on the computer-operated video monitor. This provides a unique media for individualized instruction in system operations, switchology and procedural training. Additionally, computer-assisted instruction will provide more flexibility in scheduling, and should result in more effective utilization of flight simulators for mission training.

Ground was broken at NAS Lemoore on October 23, 1980, for construction of a 19,000-square-foot, modularized complex to house the aircrew training devices. An additional 38,000-square-foot learning center, housing the media production and academic facilities, will follow. The co-location of these buildings should result in a smooth transition from classroom to flight simulator and then to the aircraft.

The part task trainer is designed specifically to develop familiarity, and hand-to-eye psychomotor skills in manipulating the 100-plus different functions possible with HOTAS. This will be much like playing a piano. The trainer also provides limited radar intercept geometry and symbology interpretation.

The operational flight trainer (OFT) employs a narrow-angle, computer-generated image in a dusk/night visual system. It will be used to train pilots in field/carrier take-offs and landings, instruments, and operational emergency procedures. This device will incorporate a G-seat, G-suit, seat buffet system in lieu of a motion base.

The weapons tactics trainer consists of a twin, 40-foot, domed unit incorporating two training stations. Similar to the OFT, each will have G-suit, G-seat, seat shaker motion cueing capabilities. This device, intended for both Fleet Readiness Squadron and fleet squadron use, will provide for many facets of air-to-air training. With the instructor flying the computer-generated target, using the joystick located at the instructor console, the device will be capable of simulating 1 vs 1, 1 vs 2, 2 vs 1, or 2 vs 2 maneuvers.

All pilots will receive fighter and attack training in a common core curriculum which will comprise 85 percent of the flight syllabus. The remaining 15 percent of the training will be specialized. Fighter-designated pilots will receive advanced fighter tactics, while attack pilots will be trained in advanced air-to-ground tactics. The instrument syllabus conducted heretofore by the instrument training squadron will be conducted in-house fully in the OFT with a final check flight in the two-place TF-18 aircraft.

The first of 30 TF-18s was delivered to VFA-125 in February 1981. The TF-18 is an ideal training aircraft with superb visibility from the rear cockpit. This cockpit duplicates all front cockpit controls and weapon capabilities, except for a look-through HUD and actual weapon release. An additional 30 F/A-18s will be assigned to the Fleet Readiness Squadron for a total of 60 aircraft.

Factory training for the initial cadre of 20 VFA-125 pilots commenced in January 1981. Each pilot received extensive academic instruction by McDonnell Douglas instructors in system operation and 10 hours of hands-on training in the F/A-18 design simulator which was available prior to the delivery of the aircraft. In fact, the aircraft components were designed and tested through use of this simulator.

VFA-125 is scheduled to commence transition of fleet F-4 and A-7 squadrons in July 1982. Transition is expected to be completed by the late 1980s.

Assuming command of his newly commissioned, hand-picked squadron, the new C.O., Commander Jim Partington, stated: "I feel extremely privileged and honored to be entrusted with command of the first F/A-18 *Hornet* squadron. Fellow *Rough Raiders*, we have a tremendous responsibility, to ensure that we provide our country with the finest return on its investment and a combat capability second to none."

*Hornets* are no threat without their sting. The training program has been carefully designed to put the sting in the F/A-18 and keep it there.

**Cdr. Jim Partington, C.O. , and LtCol. Gary VanGysel, X.O., of VFA-125, exchange well wishes following commissioning ceremony.**


# NALCOMIS

the answer and future
in maintenance needs


Necessity is the mother of the new Naval Aviation Logistics Command Management Information System, known as NALCOMIS.

It is the response to what was recognized in the mid-1970s as a need for improved management of aviation maintenance and material support, with the primary goal of keeping a maximum number of naval aircraft mission-capable.

The resources required to achieve this objective are staggering. In intermediate maintenance alone, monthly labor and material costs run from $200,000 a month at a small air station to nearly $2 million monthly at a large air station. The intermediate level labor and material costs on a deployed aircraft carrier run about $500,000 a month. Facilities and support equipment associated with intermediate level maintenance have a replacement value in excess of $1.6 billion, and the total value of the repairable spares inventory averages $27.5 million for the 93 sites scheduled to receive NALCOMIS.

Numerous other statistics are available, but the point is obvious. With such an investment, the need for an improved management system to keep up with a growing technical inventory is paramount.

An automated management information system, NALCOMIS will respond to aircraft maintenance and material management requirements of workers, supervisors and managers at the organizational maintenance activity, intermediate maintenance activity and supply support center levels, aboard carriers, amphibious assault ships, Marine aircraft groups and Navy/Marine Corps air stations. The new system will establish a standardized system afloat and ashore at 93 locations, starting with fiscal year 1983.

NALCOMIS was designated a project management office, PMA-270, within the Naval Air Systems Command in January 1977. The Fleet Material Office at Mechanicsburg, Pa., is the central design agency for the system, and they have already begun programming and testing on interim hardware.

Users have participated in these tests by operating remote keyboard video display terminals at Mechanicsburg. The Naval Aviation Logistics Center at NAS Patuxent River, Md., is the lead field activity and is responsible for development of integrated logistics support, training and other NALCOMIS support projects.

A methodical system approach has been employed to ensure response to user need and user requirements have been merged into a total system that will respond to Naval Aviation maintenance program data requirements of the 1980s.

NALCOMIS will modernize the aircraft maintenance and material management information system and provide base level maintenance and material managers with the capability to ensure the maximum number of mission-ready aircraft.

An integrated, real-time system, NALCOMIS will provide timely, accurate and complete information on which to base day-to-day decisions, and the key to the concept is automated source data entry devices to simplify and improve collection, and to return the collected and processed data as needed. The frequency and format of the data elements collected and reported will be dictated by valid information requirements at all levels.

NALCOMIS will change the local environment by providing data entry at the source via conveniently located, automated data processing terminals. This will eliminate the manual transactions outlined above.

One of the major features of NALCOMIS is a single integrated data base. An element of data such as a job control number, requisition number and required part number or aircraft bureau number, will be entered only once in the file for any given maintenance action.

*An integrated, real-time system, NALCOMIS will provide timely, accurate and complete information on which to base day-to-day decisions.*

Existing procedures for recording and extracting management information data at the squadron, intermediate maintenance and supply support center levels are time-consuming, error-prone and often result in untimely response. For example, component identification, component transactions, data collection and comparison, and cross-reference of data are all done manually.

Data validation and error detection will be made at the time of entry. This data will not only be made available to all at the site with a need to know, but data will be accumulated for required upline reporting and local management query.

Integrated data base and data validation procedures will greatly reduce errors and the need to reconcile various data files that exist in today's environment. Particular emphasis will be directed to the system interface requirements to avoid duplication.

NALCOMIS will be implemented on commercial automated data processing equipment (ADPE) procured under the shipboard non-tactical automated data processing program, to ensure overall compatibility with fleet non-tactical systems. Certain configurations will require more rugged versions of this hardware. The compatibility will permit reduction in cost of operation and equipment spares/maintenance.

It is expected that NALCOMIS will be utilized by more than 100,000 maintenance and supply personnel, and the most frequent warning to NALCOMIS developers at the 93 sites will be to keep the system simple and not overly sophisticated. At the same time, developers are asked to include new items in the NALCOMIS design.

But there is a thin dividing line between real user requirements and nice-to-have items that may overcomplicate the system. This will make it more costly to develop, maintain and operate, and thereby defeat the original goal.

NALCOMIS is being developed under both weapons systems and automated information system acquisition and review procedures. This is an opportunity, rather than a burden, to use proven procedures to ensure development of a usable, reliable system which can be maintained in that state. Traditional elements in the management process that have been taken into consideration in designing NALCOMIS include: cost benefit analysis, selection of alternative actions, test and evaluation, training, reliability, maintenance and configuration control.

In any program of this magnitude, control is needed to ensure success and cost effectiveness, to meet user requirements, and to conform to budgetary policy requirements for automated programs.

Policy guidance and usefulness to service needs are being met by:

- using top level advisors from government and industry to provide critical review of conceptual NALCOMIS design. This provides an up-to-date, state-of-the-art system while minimizing risk and avoiding mistakes of the past.

- utilizing a work breakdown structure to isolate tasks, assign responsibility and control costs.

- performing functional requirement reviews with the user community to resolve and define requirements prior to development of operational software.

- developing operational software that is flexible and easily revised to meet the dynamic and changing needs of operating forces.

Training of NALCOMIS users will be a major project. Three levels of training are planned for the worker, supervisor and manager. The worker will require training on use of the keyboard video display terminal. Training at this level is considered minimal. Additional functional training will be needed to provide the skill required for worker interaction with the NALCOMIS system.

Supervisors will receive the same training as workers, plus any specific supervisory instruction needed.

Managers will receive an overview of the system, plus training on the information capabilities of NALCOMIS.

Both supervisors and managers will be trained to use all the system capabilities. Training at all three levels will be conducted by teams as individual sites are opened, and eventually all training will be consolidated into a Navy training plan. Computer-aided instruction will be a major part of NALCOMIS training at all three levels.

A field test of NALCOMIS commenced at NAS Willow Grove, Pa., in February. The test will establish NALCOMIS in a functioning maintenance material management (3-M) environment. The test computer was the Interdata 3220 currently in use at the Fleet Material Support Office for the system's development.

As previously mentioned, NALCOMIS hardware will be procured under the shipboard non-tactical ADP program. First delivery of this hardware to the prototype activitiy is scheduled for January 1982. Under this schedule, it is estimated that the first operational activity after the prototype at Marine Air Group 14, MCAS Cherry Point, N.C., will be implemented in fiscal year 1983.

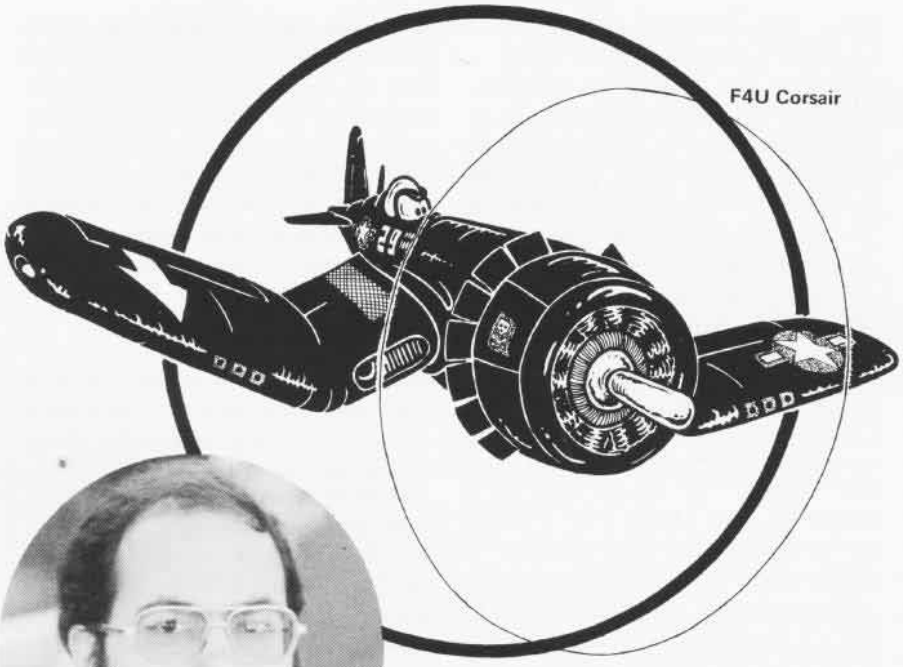
There have been many band-aid efforts to assist maintenance/material managers in managing the system. These independent endeavors by competent and dedicated people were made to increase the readiness of Naval Aviation, but the projects have been generally narrow in scope and designed to solve specific problems. They were tailored to the developers' needs and in many cases deteriorated or disappeared after transfer of the developer. It will take time, but it is time we did it right.

NALCOMIS can solve the aviation maintenance management needs of the future.

**Story by Captain Darrell D. Dempster, SC, USN, Project Manager for the Naval Aviation Logistics Command Management Information System.**

**Master Chief John Kemp of NavAirSysCom (bottom left) tries out the NALCOMIS system at FMSO Mechanicsburg, Pa. Watching (top right) are the author and Mike Paduano, head of the NALCOMIS Development Division.**


Photo by JOC Kirby Harrison

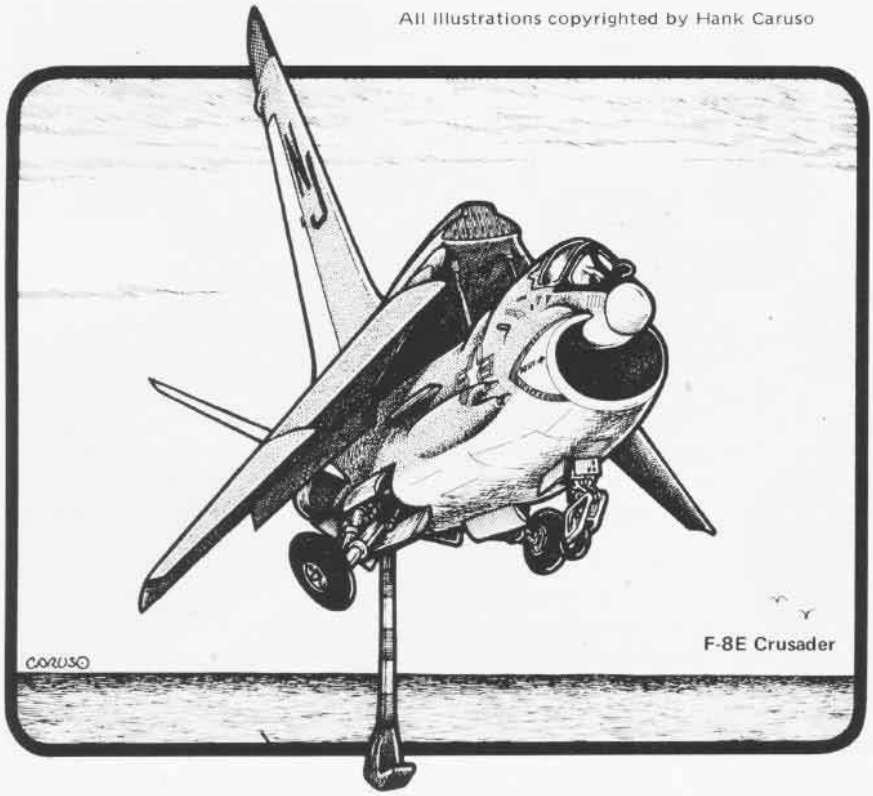


F4U Corsair



# The Aerocatures of Hank Caruso






F-8E Crusader

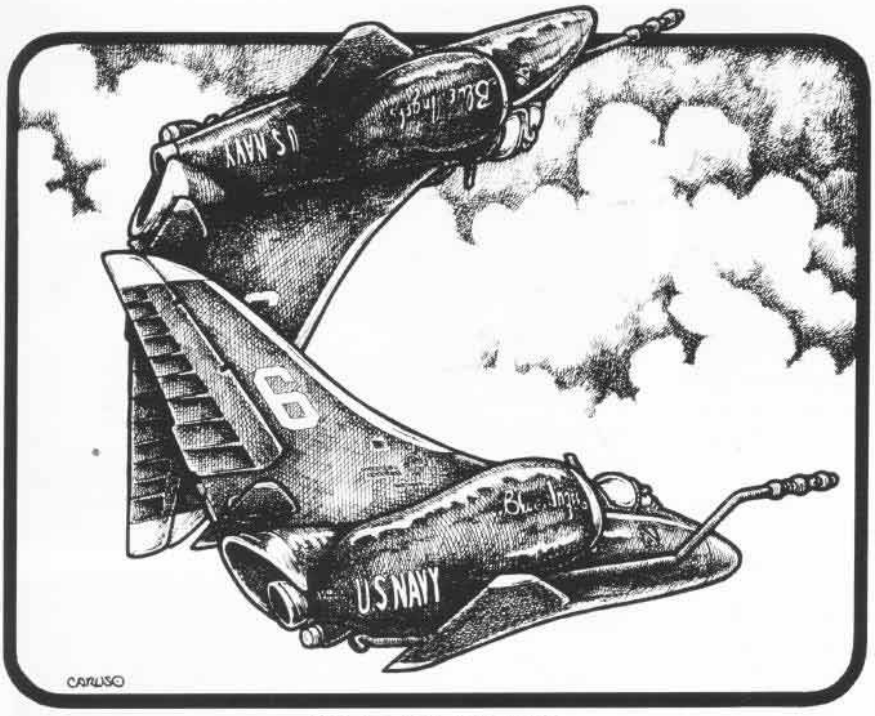
Hank Caruso, an engineer and artist whose popular aviation cartoons have appeared in publications nationwide, has a sense of humor that extends to his very earliest days, at which point he says he delayed his birth until the exact day World War II ended "to make sure it was safe." Born at Fort Benning, Ga., he was raised in Wethersfield, Conn., and was graduated from Cornell University with a degree in mechanical engineering. He is now employed as a senior engineer with the Westinghouse Electric Corporation.

A respected member of his profession, Caruso is currently engaged in environmental stress testing as it applies to aerospace technology and has authored numerous technical papers on the subject. But, recently, he has also become recognized as an imaginative, up-and-coming cartoonist specializing in aviation subjects. His work has been published in nationally distributed science and military publications and he is the creator of the cartoon character Horatio Hogbreath, a flight-suited warthog who flies an Air Force A-10. Horatio was recently adopted by the Maryland National Guard for its official emblem.

Aircraft have always fascinated Hank Caruso. He maintains a large portfolio of airplane drawings, some of which he created when he was no more than three or four years old. Interestingly, they are detailed with landing gear and insignia. Later, in grade school, he hoarded his allowance to buy postcards and harassed aircraft manufacturers, squadrons and bases for airplane pictures from which to make his own renditions.

With no formal art training to speak of, Caruso finds that his cartoon style today is not much different from that of his early youth. "As a child," he says, "I traced over all the outlines in my coloring books with a thick black crayon before coloring in the pictures. Now I draw heavily outlined pictures filled in with shadings. The images and details are more refined but the basic approach is the same.

"Because cartoons tend to be humorous, most people do not regard them as real art," says Caruso. "A




Blue Angels' A-4 Skyhawks

good cartoon, however, not only embodies the same qualities of technique and composition as serious art but has a message as well." "Cartooning," he feels, "is actually a performing art. Unlike an actor, however, the artist rarely has an opportunity to see how his audience responds. Nevertheless, a good cartoonist keeps trying to shape and fashion his performance to achieve maximum rapport with his audience."

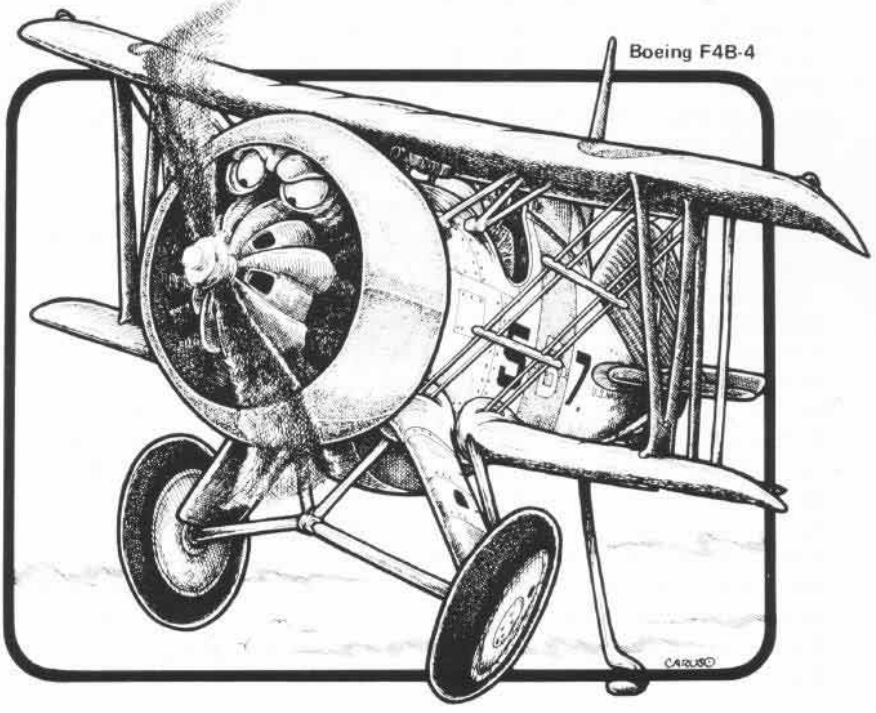
Hank Caruso has chosen as his audience pilots, people who work with airplanes and a wide assortment of aviation buffs. "With a special audience like this," he notes, "there is a need for accuracy." People are generally surprised to learn that half of the time spent in developing one of his cartoons goes into research. He is convinced that those he draws for would know immediately if he tried to fudge some small characteristic. Attention to detail is one of the things that makes his cartoons believable.

In discussing his unorthodox drawings, which he calls aerocatures, the basic philosophy of his work becomes evident. "I have always been fascinated by the idea that most aircraft have distinct and unmistakable personalities. These may be suggested in a particular aircraft by the stance of the landing gear, the set of the wings, the positioning of the canopy, the way a nose seems to droop or an engine appears to bulge." Caruso exaggerates these unique features to confer human qualities on his inanimate subjects. He tells us that the word for what he does to an airplane with a few strokes of his pen is anthropomorphism. It's a real word — we looked it up.

After defining the personalities of his aircraft, Caruso then goes about breathing life into them. Some are roguish or cocky, while others seem to smile or frown or wink at you. And they all have a certain dynamic quality which he explains this way. "I am intrigued by three-dimensional imagery and movement. In grade school, I always drew objects coming out of the paper. I still do."

Hank Caruso's cartoons have really begun to catch on and he finds he has to hustle to keep up with demand for his work. He also teaches cartooning at a Maryland community college and does drawings for historical associations and museums. In the near future, he will be going to sea aboard a carrier to interpret and record shipboard flight operations in his special style.

To Caruso it is all extremely satisfying. "Pilots and crewmen are super guys to work with," he says. And they get him up close to airplanes, the machines he seems to regard as almost human.




Boeing F4B-4

# naval aircraft

OH-4A Prototype


JetRanger Prototype

The Navy has a long tradition of buying training helicopters from Bell dating back to 1947. The current Navy primary helicopter trainer, the TH-57A, was purchased "off the shelf" as a Bell Helicopter Textron Model 206A *JetRanger* commercial light turbine helicopter. As such, it shares the lineage of over 5,000 Model 206s and derivatives of the basic designs.

The *JetRanger's* origin can be traced back to the early 1960s with an Army requirement for a light observation helicopter (LOH). Before the Army began to develop its own aircraft, the Navy's Bureau of Naval Weapons (predecessor of NavAir) conducted a design competition, leading to procurement of evaluation quantities of Bell's OH-4A; Hiller's OH-5A (subsequently the Fairchild Hiller 1100); and Hughes' OH-6A. The Bell OH-4A, designed around a typical Bell two-bladed rotor system and powered, like the other LOH competitors, by the then new Allison 250-horsepower turboshaft engine, first flew on December 10, 1962. Five experimental/evaluation aircraft were built. The Army completed its competition in May 1965 and selected the Hughes OH-6A for the Army light observation helicopter.

Bell then redirected its Model 206 program toward development of a commercial light turbine helicopter in response to the emerging corporate helicopter market. Utilizing OH-4A dynamics, Bell engineers designed a new fuselage and turned the ugly duckling into a swan. The first civil *JetRanger* made its initial flight on January 10, 1966. Deliveries began in January 1967 and the *JetRanger* was on its way to becoming a commercial success. The 206 series has now evolved through 10 models with *JetRanger III* now being delivered and *JetRanger IV* in development. As noted earlier, over 5,000 206 series helicopters have been built and production continues at a rate of 350 per year.

Beginning in 1964, the Navy had recognized the potential of the Army's LOHs as trainers. All three were evaluated by the Navy at Pensacola and Patuxent River. In early 1967, this interest became more serious and competitive procurement was initiated for one of the three FAA-certified civilian versions of the LOH helicopters — the Bell 206A, Fairchild Hiller 1100, and Hughes 500. These were also evaluated by the training command and by the Naval Air Test Center in the summer of 1967. In January 1968, the Navy selected the *JetRanger* as its primary trainer and ordered 40 as TH-57As. The Navy would become the first service to use turbine helicopters in the primary training role. The major differences between the Navy's TH-57A *SeaRangers* and the commercial *JetRangers* are in the avionics and flight instrumentation. The first delivery was in October 1968. The Navy program included a new concept — contract support of the TH-57A in service. All TH-57As were assigned to HT-8, then at Ellyson Field.

The Army also operates a *JetRanger*. The Army elected to reopen the LOH competition in late 1967. Bell proposed a modified *JetRanger* with a larger rotor and a correspondingly longer tail boom and skids. Other structural and system changes, necessitated by its new role as a combat scout helicopter, were also made. Bell won the competition and 2,200 were ordered as the OH-58A *Kiowa* for Army use. Deliveries began in May 1969; by December the *Kiowa* was operational in the Vietnam conflict.

In the Navy training mission, all helicopter training is now at NAS Whiting Field. Responsible for fundamental helicopter pilot training, HT-8 continues to operate the TH-57As. They have demonstrated the *SeaRanger's* safety and inherent ruggedness, with 36 of the original 40 helicopters remaining in service today. Over 5,400 flying hours per aircraft have been accumulated. Current Navy planning for increased pilot training includes purchase of additional TH-57s.

Appreciation is extended to Mr. T. H. Thomason, Bell Helicopter Textron, for major contributions to this article.


JetRanger TH-57A Test/Demonstration

# SeaRanger


TH-57


TH-57

| | |
|---|---|
| Length (fuselage) | 32'2" |
| Rotor diameter | 35'4" |
| Height | 9'7" |
| Engine | |
| Allison 250-C18 turboshaft | 317 hp |
| Maximum speed | 119 kts |
| Maximum range | 406 nm |

NAVAL AVIATION HALL OF HONOR

*This is the third in a series of articles on each of the first twelve men to be enshrined in the Naval Aviation Hall of Honor.*

# Alfred A. Cunningham

By Helen Collins

Alfred Austell Cunningham is known as the father of Marine Corps Aviation. His vision, convictions and pioneering accomplishments are credited with laying a firm foundation for the Marine Aviators who followed him. Josephine Cunningham said of her husband after his death, "As the Marine Corps' first aviator, he had a one-track mind. His life and soul belonged to Marine Aviation."

When the battleship *Maine* was blown up in Havana Harbor, Cunningham lacked one month of being 16. But three months later, on May 11, 1898, he was mustered into the 2nd Georgia Infantry Volunteers as a corporal and during a one-year tour he saw duty in Cuba in the Spanish-American War.

Cunningham was discharged the following April and returned to his birthplace, Atlanta, Ga., where he remained nearly 10 years as a civilian selling real estate.

One day during those early years, probably about 1903, he watched a passenger-carrying balloon ascend to become a dot in the sky. When the basket, suspended from a bulky sack filled with illuminating gas, touched down to earth again, he rushed to the spot. Before the afternoon was over, Cunningham had taken to the air twice with the traveling balloonist. From that day, he dreamed of flying.

Ten years after his discharge from the Army, on January 24, 1909, he accepted a commission as second lieutenant in the Marine Corps at Parris Island, S.C. He served a seagoing apprenticeship aboard *New Jersey* and *North Dakota*, went ashore at Guantanamo, Cuba, with a provisional brigade of Marines, and commanded a Marine detachment on *Lancaster*.

In 1911, orders to shore duty sent him to the Marine Barracks at the Philadelphia Navy Yard where he arrived in November.

Spurred by his fervent desire to fly, he began experimenting with a plane he rented for $25 a month from its builder, a civilian named Brown. Cunningham persuaded the commanding officer of the Navy Yard to let him use an open field on the base for test flights. Even his enthusiasm, however, could not overcome the aerodynamic deficiencies of his machine which was nicknamed "Noisy Nan." She made all the noises of an aeroplane but would not fly. Cunningham built a runway with a bump at the end. Down the runway he would speed, hit the bump and hop 20 to 50 feet into the air. But it was only a jump, not a flight, and Noisy Nan always settled right down on the grass again. The aspiring aviator described his frustration: "I called her everything in God's name to go up. I pleaded with her. I caressed her. I prayed to her and I cursed that flighty old maid to lift up her skirts and hike, but she never would."

Although Cunningham did not get the uncooperative aircraft into the air, he did get himself into hot water. He had joined the Aero Club of Philadelphia, a group of aviation enthusiasts and, moved by his persuasion, influential club members began pressing their congressmen to

get a Marine flying field for Philadelphia. Cunningham's superiors discovered his part in this unauthorized campaign and took a dim view of the maneuver. However, they did grant him the orders which took him to the Navy's new aviation camp at Annapolis for "duty in connection with aviation."

He arrived at Annapolis on May 22, 1912, a date which is generally accepted as the birth date of Marine Corps Aviation. Its birth cry, however, was little more than a whisper.

Cunningham was ordered away almost immediately on expeditionary duty. When he returned in July, no aircraft was available for him, and so he obtained orders to go to the Burgess aircraft factory in Marblehead, Mass. In the early days of aviation, the men who built the planes also taught others to fly them.

After two hours and 40 minutes of instruction under civilians, Cunningham soloed on August 20, 1912. Later, he described his solo flight: "I had only attempted to make two landings in rough weather when one calm day they decided to risk the plane . . . I was asked if I was willing to try it alone and I said I was. I took off safely and felt confident in the air until I thought of landing, and wondered what would happen . . . Every time I decided to land I would think of some good excuse to make another circle of the bay. The gas tank was mounted between the wings in plain view, and a small stick attached to a float protruded from the top of it for a gasoline gage. As the gas was used, this stick gradually disappeared into the tank. As the stick got shorter, I became more and more perturbed at having to land, with little idea of how to do it. Just as the end of the gasoline gage stick was disappearing, I got up my nerve and made a good landing, how I don't know . . . This was my first solo." His solo gave the Marine Corps its first aviator.

While still at Marblehead, Cunningham studied engines, learned how aeroplanes were built and initiated correspondence with Marine Corps headquarters requesting the assignment of an enlisted Marine to aviation duty.

Cunningham was back at the Annapolis aviation camp in September, where Spuds Ellyson, Naval Aviator No. 1, was now officer in charge. Ellyson assigned officers to each of the camp's four aircraft and it was Cunningham's lot to fly a B-1, the older of two Wright machines owned by the Navy. He and Sgt. James Maguire, the first enlisted Marine assigned to aviation duty, became known as the Marine camp. Cunningham, from the start, was emphatically a Marine Aviator, always promoting a distinct Marine Corps air entity.

Cunningham took part in the operations of the aviation camp when it deployed briefly to join the fleet in its annual maneuvers off Guantanamo, Cuba, but he was hampered by the inadequacies of his plane. The B-1 was powered by a single engine which drove twin propellers turned by chain drive. This airplane had been wrecked and rebuilt several times before Cunningham arrived on the scene and although he too rebuilt it, its performance continued below desired standards.

In spite of the B-1's faults, he managed to make almost 400 flights between October 1912 and July 1913. Some of the more frustrating days were noted with a terse entry on the page of Cunningham's flight log which recorded flights 371 through 383, "Engine stopped in air on nearly all of these flights."

Again, his own words best describe the trials and tribulations of flying in those early days. He wrote to Capt. W. I. Chambers, then officer in charge of Naval Aviation:

"My machine, as I told you and Mr. Towers probably told you, is not in my opinion fit for use. I built it from parts of the Burgess F and Wright B, which are not exactly alike and nothing fitted. I had to cut off and patch up parts and bore additional holes in beams in order to make them fit. The engine bed, made by Burgess, was not exactly square with the front beam, so the engine had to be mounted a little out of true (with reference to the engine bed). I have made over 200 flights in this machine and, recently, in spite of unusual care of myself and men, something seems to vibrate loose or off, on a majority of the flights made. One of the propeller shafts is the same one used with the Cyro motor in the old machine. It is the old lefthand shaft here. While the engine runs smoothly, it does not deliver nearly as much power as when it was newer, and even then it did not have enough power to climb over a few hundred feet with a passenger. The whole machine has just about served its usefulness and I would like very much to have a new machine of the single propeller type. Lieutenant Arnold, of the Army, after seeing the machine run and examining it, said that none of the Army fliers would go up in it. Will you kindly let me know what the prospects are for my getting a new machine."

Cunningham became engaged about this time to a Josephine Jefferies who did not share his enthusiasm or his faith in the aeroplane. His devotion to her must have been great because in August 1913 he asked to be relieved of duty involving flying because "my fiancee will not consent to marry me unless I give up flying."

Cunningham was detached from the Annapolis aviation camp and ordered to the Navy Yard in Washington, D.C., as assistant quartermaster. Although he had given up flying, he continued to promote Marine Corps Aviation and during this period made some valuable contributions.

In November 1913, he was made a member of the Chambers Board which was convened to draw up a comprehensive plan for the organization of a naval aeronautical service. Cunningham's membership assured the Marine Corps a voice in Naval Aviation's growth almost from its infancy. It was on the recommendation of this board that the Naval Aeronautical Station at Pensacola, Fla., was authorized. On January 6, 1914, the Corps received orders to establish Marine Aviation as a separate and official entity.

One can imagine Cunnigham's frustration. The dream he had worked so hard to bring to life was now becoming a reality and he would be left behind. By his own choice he would not be an active participant. But about this time his wife must have reconsidered her position because, at Cunningham's request, he was reassigned to flying duty in April 1915. Aviation had progressed enough in the year and a half he was away from it that he had to take a refresher course. He was redesignated a Naval Aviator and was ordered to duty at the Naval Aeronautical Station, Pensacola.

The following year, he received

Aero Club of America issued airplane certificates licensing pilots who met certain standards. First federal legislation regulating civil aeronautics and licensing pilots was not passed until 1926.


orders to the Signal Corps Aviation School in San Diego for instruction in landplane flying. Cunningham had foreseen the value of landplanes to the Marines, one of whose jobs it was to defend advance bases.

During his training at the Signal Corps Aviation School, Cunningham flew for the first time in a cockpit inside a fuselage instead of occupying a seat in the open in front of the wings of a primitive pusher. He wrote later that he would "never forget the feeling of security I felt to have a fuselage around me."

The same training pattern persisted during the early years of Marine Aviation, a pattern in which Marine Corps pilots received basic flight instruction from the Navy and were designated Naval Aviators. Subsequently, they underwent landplane and advanced training at Army schools.

At the end of 1916, out of a total number of 59 commissioned officers and 431 enlisted men assigned to Naval Aviation, only 5 officers and 18 enlisted were Marines. However, with Europe at war for more than two years, the climate seemed ready for the creation of a distinct Marine Corps Aviation organization.

An Aeronautic Advance Base Unit was authorized at the Philadelphia Navy Yard and in February 1917 Cunningham was detailed to establish, equip and command an aviation company. Less than two months later, the United States declared war on Germany.

Cunningham was a driving force in an aggressive campaign to get Marine Corps Aviation involved in the war. He represented both Naval and Marine Corps Aviation on an interservice board which selected coastal air stations. He recruited men for Marine air units, sought missions for them to perform, and negotiated with the Army, Navy and eventually the British for equipment and facilities.

The aviation company at Philadelphia, renamed Marine Aeronautic Company, was designated to fly seaplanes and was sent overseas. This unit flew Curtiss HS flying boats on antisubmarine patrols from Ponte Delgada in the Azores. A second Marine unit was authorized with landplanes to provide reconnaissance and artillery spotting for the brigade being sent to France. Under an arrangement negotiated by Cunningham, the Army Signal Corps trained pilots and crewmen for this unit and provided most of its aircraft and equipment.

In the search for the needed personnel, Cunningham met candidates as they poured into the first wartime Marine Corps officers school at Quantico during the summer of 1917. He preached the cause of aviation to them and out of dozens of volunteers from the first class, he selected 18. Six joined the Marine Aeronautic Company for seaplane duty, and the others went into the new landplane squadron. Other officers were added as they became available to bring Marine Corps Aviation to desired strength.

Under wartime stimulation, Cunningham's responsibilities and duties increased. He was given command of the First Marine Aviation Squadron and was also assigned the job of obtaining information on French and British aviation activities. He investigated virtually every aviation activity at the front, participated in fights over the German lines, surveyed French aviation bases and studied British flight schools. At home and in Europe, he worked hard to sell aviation.

Cunningham drew up a plan for an aircraft offensive against German submarines operating from bases along the Belgian coast, which were

Cunningham piloting an old Curtis seaplane. He later took instruction in landplane flying at the Signal Corps Aviation School, and flew De Havilland DH-4s in Europe during World War I.

threatening Britain's ocean supply lines. The General Board of the Navy approved his plan and authorized the formation of the Northern Bombing Group to carry it out. Cunningham was to organize, equip and command the First Marine Aviation Force, consisting of four squadrons and a headquarters detachment, which would constitute the Marine element of the new bombardment group. The Marine squadrons would conduct the daylight raids of the Northern Bombing Group, while the Navy wing would carry out night raids.

The Marine Corps finally got its own air field in March 1918, in Miami, and there the First Marine Aviation Force was formed under Cunningham's command.

Three of the four squadrons which made up the Force left for France in July 1918, followed in October by the fourth. Cunningham arranged for his Marine pilots to fly bombing missions with RAF squadrons 217 and 218, operating DH-4s and 9s. These were the same type of planes the Marines flew but theirs had not yet arrived in Europe. The Marine pilots flew combat missions over the German lines with the British in rotation so that every Marine Aviator would have an opportunity to go on at least three raids. By October 13, the Marines had received enough of their own planes to begin flying missions independently of the British. During their wartime tour of duty between August 9 and the Armistice on November 11, the Marines of the First Marine Aviation Force took part in 43 missions with the British and launched 14 raids of their own.

When Cunningham returned home after the Armistice, he resumed his position as officer in charge of aviation. An aviation desk was set up at Marine Corps headquarters and he received formal recognition as head of the Marine section of Naval Aviation. In the postwar battle for appropriations and legislation Cunningham, together with others, fought untiringly for the growth and permanent status of Marine Aviation. Additional manpower and permanent bases were authorized and Cunningham traveled extensively throughout the United States to survey proposed sites and facilities.

Cunningham remained as head of the aviation section until December 1920, when he left to command the Marine First Air Squadron in Santo Domingo. During his command, the squadron piled up a record of 9,300 flying hours without a serious mishap from January 1921 to May 1922.

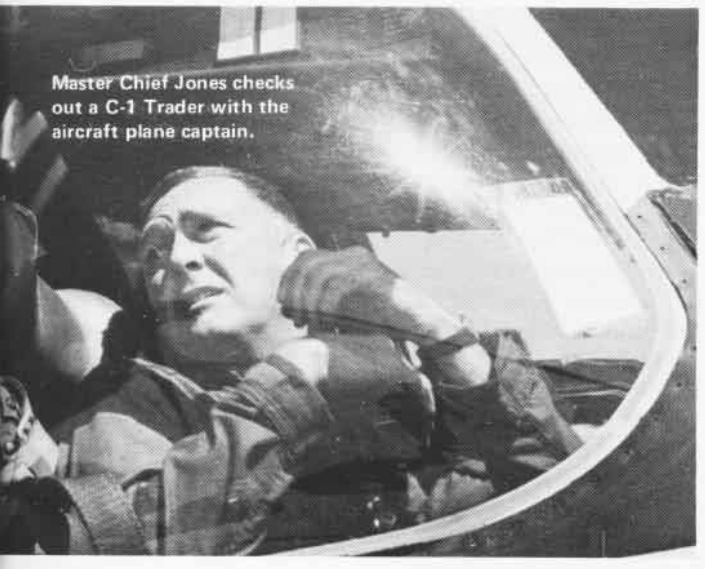
Marine Corps policy of that period dictated that flyers return to ground duty after a five-year tour in aviation. Cunningham was ordered to the Marine Corps Schools, Quantico in July 1922, where he graduated No. 2 in his class. After graduation he was transferred to a series of non-flying staff billets and was not assigned to aviation duty again. His last tour of duty was at the Marine Barracks in Philadelphia, as assistant quartermaster. His health began to fail and his colorful, trail-blazing career ended with his retirement as Lieutenant Colonel on August 1, 1935. He died on May 27, 1939, in Sarasota, Fla.

Alfred A. Cunningham was quick to discern the value of the airplane to the Marine Corps mission. His efforts in this direction opened up a new facet of Naval Aviation. He pioneered the cause despite many risks, frustrations and disappointments. It's a long way from Noisy Nan to the *Harrier* and there are many who have made significant contributions to the success of Marine Corps Aviation. But no one would dispute that it was Alfred A. Cunningham who showed the way.


Hash marks denote MCPO Jones' 38 years of service, most of it as a Naval Aviation Pilot.

With the retirement of Naval Aviation Pilot R. K. Jones, a proud era also has ended

# last enlisted naval aviator retires



Master Chief Jones checks out a C-1 Trader with the aircraft plane captain.

Robert K. Jones won his wings as a Navy pilot when many of us were little more than a gleam in our parents' eyes, when all airplanes had propellers, and Congress made training of enlisted pilots mandatory.

Thirty-eight years later, the gleams are grown up, our own children look with curiosity on any military or transport airplane that *does* have a propeller, and the era of enlisted pilots is history.

There was no ceremony to mark Jones' retirement on January 31, 1981, at NAS Pensacola, Fla. Jones wanted it that way, preferring to leave the Navy the same way he joined it in 1943, "just doing my job."

He and the 3,700 other Navy and Marine Corps enlisted pilots did that "job" over a period of 61 years. From Harold H. Karr, the first of the Navy's NAPs — as they came to be called in 1920 — they served with skill and dedication. As Jones put it, "I don't have to defend the enlisted pilot program. It speaks for itself."

NAPs flew in combat, as transport pilots, and as instructors from WW II through Vietnam. The enlisted pilot program had been halted in 1947, however, and the ranks began to thin by attrition.

But the opportunity for enlisted personnel to become Navy pilots has not ended. The Secretary of the Navy last year approved establishment of a Limited Duty Officer aviator program for paygrades E-5 through E-7, with the first 35 to begin training in Pensacola in April of this year. Although many of the NAPs became officers later, that program did not include an officer's commission as the normal process.

Jones describes the new program as a start.

"It takes a lot less to train a man who already knows the Navy than to take somebody off the street and start from scratch to make a pilot."

The NAP era ended with Jones' retirement as the last of the Navy and Marine Corps enlisted pilots. But, at age 57, Jones prefers to look at retirement as just another beginning. He will continue flying, as a charter pilot for Arab Wings in Jordan, and the Navy already has another Jones. Son Paul, nicknamed Pablo during a tour of duty in Spain, has just completed primary flight training at Pensacola.

Asked if there is any one piece of advice he would offer his son, Jones points out, "Rules and regulations were made to be interpreted by leaders, not blindly followed."

Asked to sum up his own career, the Navy's former enlisted pilot quotes a friend, saying simply, "I had one landing for every takeoff."

# TOUCH AND GO

## *Forrestal Gets Facelift*

The major job, however, was installation of a contamination holding tank and system throughout the ship. The new tank and system is designed to reduce contamination of the bays and flushes water back into the holding tanks rather than over the side.

More than 2,000 jobs were handled by the ship's work force made up of 84 *Forrestal* crewmen. Among these were a complete overhaul and rehabilitation of 15 berthing compartments and a facelift of the forward galley.

Civilian workers on the overhaul included teams from Philadelphia Naval Shipyards; Naval Station, Norfolk; Jacksonville Shipyards, Inc.; and Atlantic Marine, Inc. Civilian and ship's force personnel put in a total of more than 90,000 man days during the four-month period.

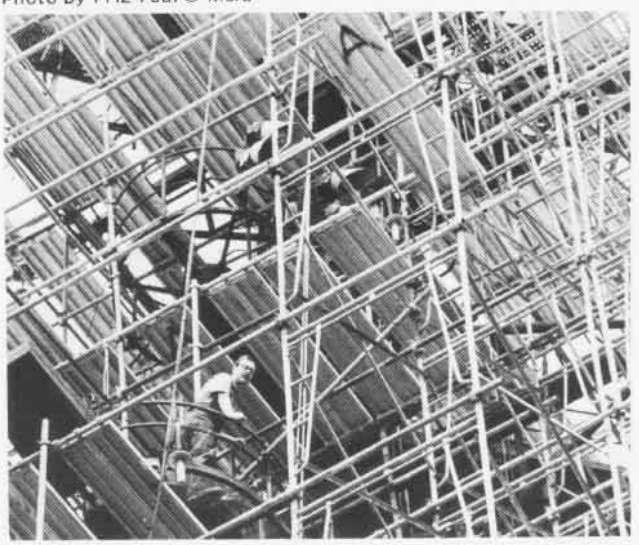
According to Lieutenant Commander Pete Bowden, assistant maintenance department head and ship's work force coordinator, work went on throughout the ship, "and almost every department saw at least some repairs. It was a total effort by everyone involved."

The carrier *Forrestal* is back in action following a $21-million facelift that included four months at Naval Station, Mayport and sea trials in the Caribbean. *Forrestal* entered the ship's restricted availability period shortly after a five-month deployment with the U.S. Sixth Fleet in the Mediterranean last year, and completed the overhaul period in December.

Work included installation of a new lighting system in Hangar Bay Two, complete overhaul of the ship's steering system, resurfacing of the flight deck, and complete transition of the magazine sprinkler system from hydraulic to dry-type actuators.

**JO3 Jon Gagne**

Photo by PH2 Paul O'Mera



**The island on Forrestal had more the look of a high-rise project during her four-month overhaul.**

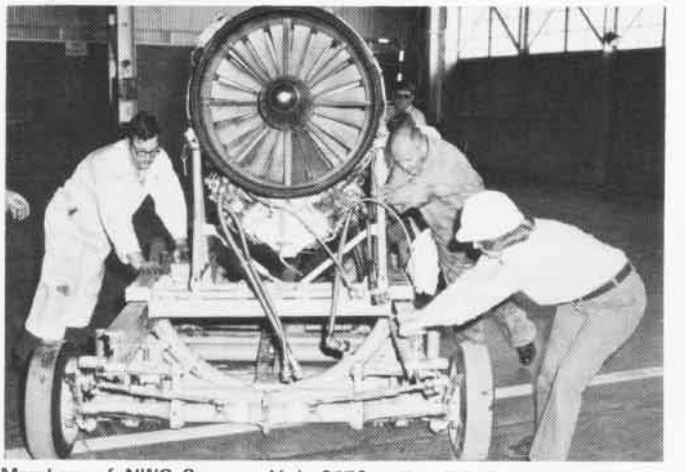
## *Rear Admiral Arrested*

Another footnote in U.S. naval history was recorded recently when Rear Admiral Paul T. Gillcrist became the first flag officer to pilot the F-14 *Tomcat* to a carrier arrested landing. RAdm. Gillcrist, commanding Fighter Airborne Early Warning Wing, Pacific, made two traps in the F-14 aboard *Kitty Hawk* with LCdr. Joe Montsinger as radar intercept officer.

It was a long way from RAdm. Gillcrist's first recorded carrier arrested landing on *Monterey* in 1953. With more than 5,100 hours of flight time and 28 years as a Naval Aviator, he has flown 70 different types of aircraft and he described his F-14A trap as "one of the most rewarding parts of my naval career."

"When I rolled into the groove for my first carrier landing in 1953, my heart was beating a mile a minute," RAdm. Gillcrist recalls. "Coming aboard *Kitty Hawk*, it was beating just as fast. I can think of no other form of human endeavor which offers the same combination of challenge, personal satisfaction and sheer excitement as carrier aviation. It's one hell of a great career. I recommend it to any young person who wants to be someone special!"

## Reservists Save $$$



Members of NWC Support Unit 0176 pull a J79-10 engine to a work area during recovery operations last summer.

Naval Reservists who could have been excused from regular drill because of funding deficits volunteered to drill as usual at the Naval Weapons Center, China Lake last summer, recovering more than $15 million worth of jet engines from decommissioned aircraft. Members of Naval Weapons Center Support Unit 0176 at NAS Point Mugu spent their drill time completing an assignment started during their two weeks annual active duty for training.

The smokeless J79-10 jet engines were removed from decommissioned RA-5C *Vigilantes* slated for destruction in a missile test program. Reservists removed the smokeless engines and replaced them with older but still workable J79-8 engines. The recovered engines will be sent to F-4 and F-14 fleet units after overhaul.

Perhaps more impressive than the unit's willingness to volunteer is the fact that few of the Reservists had ever pulled a jet engine. The support unit normally maintains C-131 and C-117 transports.

Instruction prior to the job and during actual recovery was provided by Guy Cline, a civilian aircraft mechanic at the naval air rework facility, with 23 years of experience. According to Cline, the Reservists "did an outstanding job, considering the time constraints."

Capt. Terry Badger, commanding officer of Support Unit 0176, points out that his unit undertook a task that resulted in savings to the government and taxpayers. "It's only appropriate then that these Reservists be acknowledged and praised for their contributions."

## Itching to Fly

They call her the "flying grandmother," a nickname penned by a news writer who thought it remarkable that Clementine "Teeny" McDonald, a grandmother, was still active in the Naval Air Reserve.

Senior Chief McDonald, a flight attendant NATOPS instructor with VR-58 at Cecil Field, Florida, still logs flight time, explaining, "I love to fly. There are no bill collectors up there. No telephones."

The native Floridian and resident of North Jacksonville has logged more than 2,700 hours in the C-118 *Liftmaster* and was awarded the Vietnam service ribbon for her part in airlifting troops out of Vietnam.

McDonald joined the Navy in 1944 as a yeoman and left the military in 1946 to raise a family. "In those days," she says, "you weren't allowed to stay in with a child under the age of 18."

Not until 20 years later did she again wear a military uniform, when she joined the Naval Reserve. "You don't get much money out of it, but it's fun. And one thing that the Reserves taught me — this is the finest country in the world."

Senior Chief McDonald recently made her 64th crossing of the Atlantic and plans to make many more, doing what she likes best as a Naval Air Reservist.

**J02 U. Brinkley II**

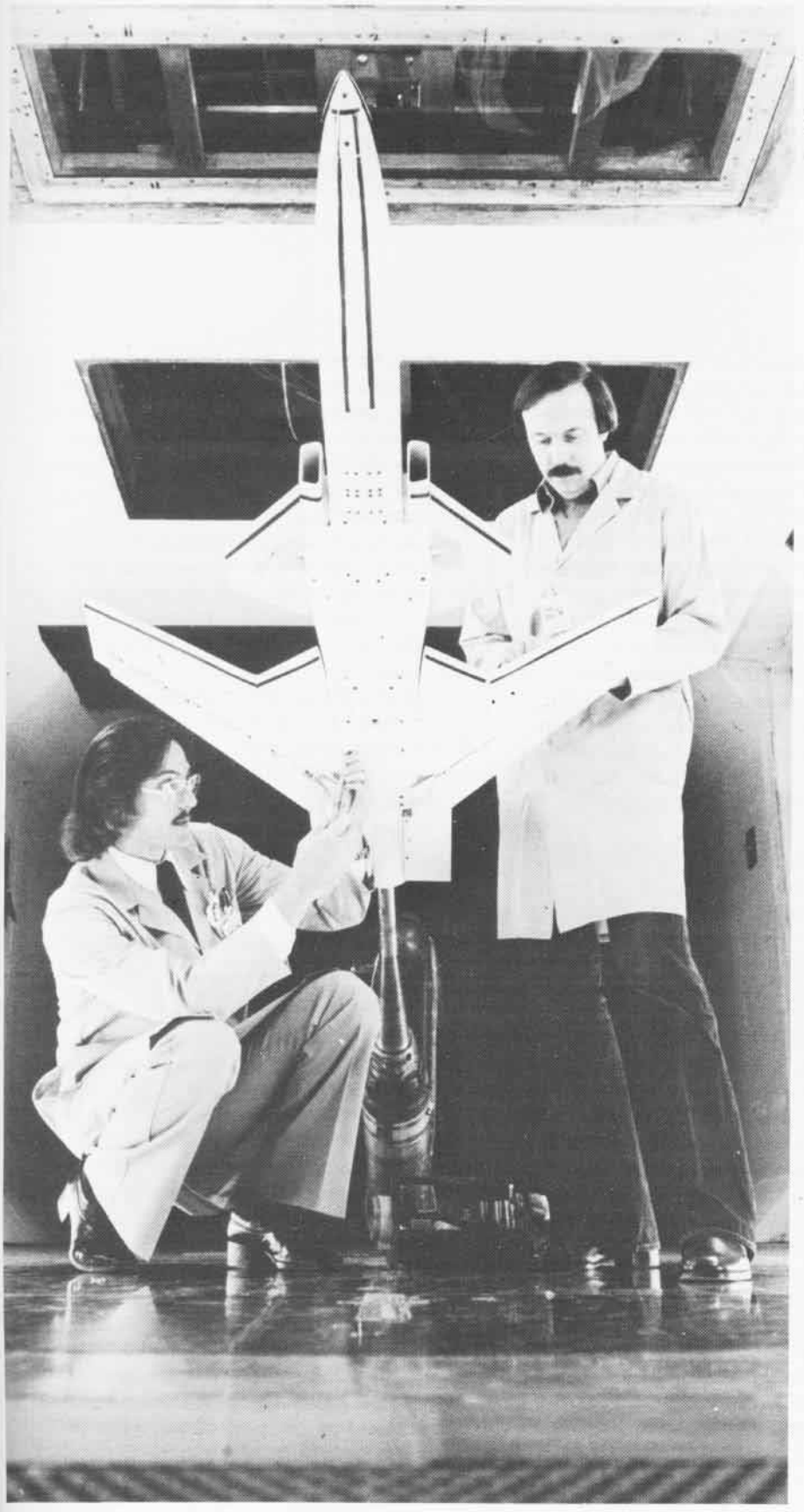
Photo by Ltjg. Nancy Sprague

AZCS Teeny McDonald (R) and AD1 Daniel Dahling work a pallet into place on a C-9 aircraft in preparation for cargo loading.


I think the friendly skies are getting a little bit too friendly.

# aviantics

Relax! There's no enemy unit within miles.



And, if it flies, we can quit selling bicycles and go for the big bucks.

So, the general said, "Let's buy one parachute and let them all use it."

# PEOPLE·PLANES·PLACES

## Awards

VP-4 was presented the ComNavAirPac Battle E as the best patrol squadron in the Pacific Fleet. The *Skinny Dragons* were judged to have the highest readiness in day-to-day performance of their primary mission. VP-4 was selected from among all patrol squadrons assigned to NavAirPac, January 1979 to June 1980. During this period, 10,743 accident-free flight hours were flown and an 85-percent mission-capable aircraft readiness was maintained.

Winners of the 1980 CNATra Training Effectiveness Awards, by category, were: primary, VT-6, Whiting Field; intermediate jet, VT-19, Meridian; advanced jet, VT-24, Chase Field; maritime, VT-31, Corpus Christi; and NFO, VT-86, Pensacola.

Whiting Field's HT-18 was presented the 1980 VAdm. Robert Goldthwaite Award for training efficiency. Criteria for nominees from each training air wing include: student on-board time, flight hours per completion, aircraft training availability, safety, cost effectiveness, personnel management, human relations and unit morale. Sponsored by Rockwell International, the annual award is named after the man whose interest in training spanned most of his naval career, beginning as a flight instructor at Pensacola in 1929 and ending as Commander Fleet Air, Jacksonville, in 1965.

LCdr. George K. Starnes of Oceana's VA-95, deployed aboard *Eisenhower,* was chosen LSO of 1980 by ComNavAirLant. He was picked from among 160 LSOs on the East Coast for his outstanding ability. As an LSO, he is responsible for ensuring that *Ike's* pilots fly safe approaches and landings on the ship's flight deck.

VP-6, Barbers Point, has captured the coveted ComNavAirPac Coastal Command Trophy, awarded to the Pacific Fleet squadron that has displayed the highest airborne ASW proficiency during the competitive Battle E cycle. The trophy was presented to skipper J. M. Jarratt by Air Vice Marshal G. A. Chesworth, British Royal Air Force, who praised the squadron for strengthening the ties between Great Britain and America. Originally presented to ComNavAirPac in 1968 by the RAF Coastal Command, the trophy was given in recognition of the 50th anniversary of the RAF and its exchange officers who have served at ComNavAirPac.

AT1 John Tilghman, assigned to the Pacific Missile Test Center at NAS Point Mugu, Calif., shows off his medal, for heroism, to his family. Tilghman saved himself and the seriously injured copilot after a

Navy S-2 crashed into the ocean off the southern California coast. The pilot and another crewman died in the crash. Tilghman was awarded the Navy and Marine Corps Medal for heroism and was cited for extraordinary efforts in saving the life of a comrade.

The *Rocks* of VF-161 compiled a 3.41 overall landing grade average, a 85-percent boarding rate and placed four pilots in the Top Ten to carry away the air wing's coveted Tailhook Award for the September through October 1980 competition at sea. Cdr. J.L.K. Corcoran, LCdr. Scotch Comer and Lt. Rick Willard all tied for second place with a 3.625 average and a 100-percent boarding rate; LCdr. Larry Cook placed sixth with a 3.602 average and 93 percent boarding rate.

VX-1 at NAS Patuxent River has been awarded the Chief of Naval Operations Aviation Safety Award. The award, presented by RAdm. David L. Harlow, Commander of Sea-Based Anti-Submarine Warfare Wings, Atlantic, acknowledged VX-1's record for more than three years and 14,000 hours of accident-free operations.

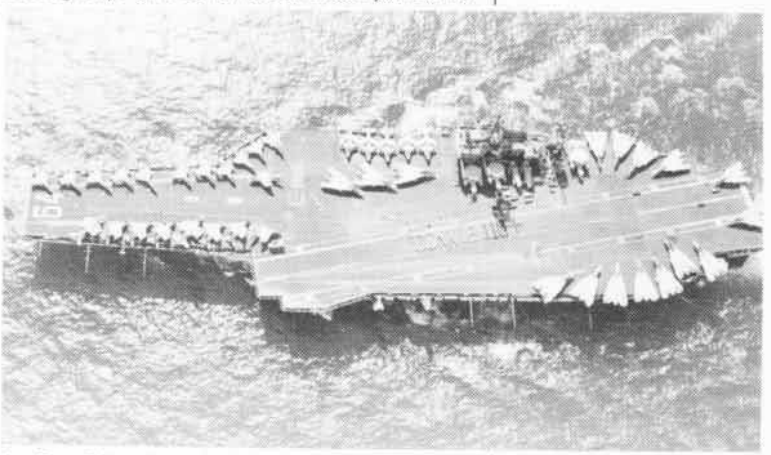
## Rescues

Navy search and rescue (SAR) teams assisted rescue units in the Yosemite National Park following a massive killer rock slide on November 16. SAR helicopters from Naval Air Stations, Lemoore and Fallon shuttled rescue workers and injured and stranded hikers in what was described as the worst tragedy in the park's history.

Two Coast Guard helos were launched recently in response to a request for assistance in evacuating 522 people aboard the burning motor vessel *Prinsendam*, 180 miles northwest of the Coast Guard air station at Sitka, Alaska. The 427-foot ship was on fire and most of the passengers were in lifeboats after crew members failed to put out the fire. During the next 24 hours, rescue crews from Sitka and Kodiak, Coast Guard cutters *Woodrush* and *Boutwell*, along with Canadian Armed Forces, U.S. Air Force and civilian units successfully rescued everyone from lifeboats and rafts despite 15 to 20-foot seas and 40-knot winds.

## Records

The "Connie 110+" spelled out on the deck of *Constellation* signifies the record-setting days of a continuous at-sea period for



the San Diego-based carrier commanded by Capt. Leon A. Edney. The ship arrived in her home port last October where a warm welcome awaited the 5,000 crew members who had spent nearly eight months in WestPac. Besides conducting sustained air ops in the Indian Ocean during the extreme weather of the monsoon, *Connie* participated in exercises with naval units from Great Britain, Singapore, Japan, Australia and New Zealand. Because of the ship's extended at-sea period, embarked CVW-9 was able to set its own records. The *Red Griffins* of VS-38 flew 938 hours in one month, while the air wing logged more than 28,000 flight hours and 10,500 traps.

# PEOPLE·PLANES·PLACES

Capt. John M. Waples, ComCVW-2, logged his 1,505th trap, becoming the leading tailhooker in U.S. Naval Aviation history. The landmark trap was made in an F-14 *Tomcat* from VF-2, with LCdr. Gene Stevens as RIO. This record breaks the old one of 1,504 traps held by Capt. James Flatley III, C.O. of *Saratoga.* Capt. Waples' record spans a career of 23 years and is especially noteworthy since every landing was made in operational rather than training or test aircraft.

Several squadrons marked accident-free flight-hour milestones: VX-1, 14,000 hours; VT-86, 50,000; VS-32, 70,300; VT-19, 100,000; and VMGR-152, 100,000.

Another milestone was reached aboard *Forrestal* while conducting training exercises in the Caribbean. The 100,000th catapult launch from catapult one took place in November, with Lt. Tom Mason piloting an F-4 *Phantom* from VA-85, Cecil Field. The record is one of many for the 25-year-old carrier. Last May, while in the Mediterranean, the carrier recorded her 250,000th arrested landing. She has logged more than 264,000 launches.

HSL-36, home-ported in Mayport, Fla., flew a record-breaking 6,202.9 hours in the SH-2F. It is believed this new record represents the greatest number of flight hours flown by a LAMPS squadron since the program became operational in 1971. The squadron was also awarded the Arnold Jay Isbell Trophy for ASW excellence for the second year in a row.

## Honing the edge

The *Flying Ubangis* of VA-12 have won the first Gonzo Station bombing derby. The derby was conducted while the squadron was operating aboard *Eisenhower* on station in the Indian Ocean. Scoring was based on a

two bomb average. Top place in the Lt. and Ltjg. divisions went to *Ubangis* Steve Jasper and Clint Nicely.

The *Freelancers* of VF-21 based at NAS Miramar, completed a successful night missile shoot. The newest version of the F-4 flew against an AQM-37A target drone, exceeding the speed of sound and flying at an altitude of 50,000 feet. The F-4S aircraft

successfully launched AIM-7F *Sparrows,* each using a different type of guidance mode of the AWG-10A weapons system, which were guided to within lethal range of the drone.

## Deceased

Sir James Martin, Managing Director and Chief Designer of the Martin-Baker Aircraft Company, Ltd., died on January 5, 1981. Baker, in 1929, formed the company which manufactured several aircraft during WW II. He began work on ejection seats in 1944 and, on August 15, 1946, Cdr. D. W. Gressley demonstrated Martin's device on a test tower in Philadelphia. Two and a half months later, Lt. A. J. Furtek made a live ejection from a JD-1 aircraft moving at 250 miles per hour at 5,000 feet. The Martin-Baker seat was installed in the TF-9J around 1959, followed by installation in the F-8 *Crusader*, F-4 *Phantom*, A-6 *Intruder* and F-F-14 *Tomcat*. It is currently being installed in the F-18 *Hornet*. Some 4,800 ejections have been made to date in the Martin-Baker seat, many occurring during the Vietnam conflict.

## Change of Command

CNATra: RAdm. Edward H. Martin relieved RAdm. Joseph J. Barth.

CVWR-20: Cdr. David Layton relieved Capt. Gordon Goldenstein.

VA-75: Cdr. Joseph S. Mobley relieved Cdr. Rodney A. Bankson.

VA-145: Cdr. Frederick D. Litvin relieved Cdr. David D. Williams.

VAQ-129: Cdr. Grady L. Jackson relieved Cdr. Roger L. Newman.

VAQ-131: Cdr. Gunder Creager relieved Cdr. Kenneth A. Walden.

VC-13: Cdr. Jere Rivers relieved Cdr. Norm Justesen.

VF-31: Cdr. Michael N. Matton relieved Cdr. Roy Cash.

VF-111: Cdr. Stuart O. Schmitt relieved Cdr. Robert W. Geeding.

VP-46: Cdr. Louis D. Milioti relieved Cdr. Michael J. Knosky.

VT-10: Cdr. Charles B. Coltman relieved Cdr. Charles P. Downs.

Photo by PHI Dale Anderson, Naval Audio Visual Command


# They're home!

They were there 444 days. Hostages. All 52 are home now, all alive and apparently well. Among them were 12 Navy and Marine Corps men whose courage and strength of character has added immeasurably to our own pride as Americans.

There was Commander Don A. Sharer, who when told to lay down before a mock execution squad refused, saying, "You're going to shoot me standing up, not lying down." Marine Sergeant John McKeel, Jr., gave his Iranian captors nothing more than his name, rank and serial number, even when told (falsely) that his mother had died and he would be allowed to go home to her funeral if he cooperated. And there was McKeel's fellow Marine, Sgt. James Lopez, who had held off intruders in the initial embassy takeover for more than two hours, allowing five other Americans to escape.

Theirs were a few of the individual acts of defiance and heroism that marked the taking and long captivity of the 52 Americans. Commander Sharer's closing words in his initial phone call to his wife after being released summed up the feelings of the 12 Navy and Marine Corps returnees.

"Count me American," he told her, "still serving the Navy."

Welcome home: Commander Don A. Sharer
Lieutenant Commander Robert Engelmann
IS1 Duane L. Gillette
SSgt. Michael E. Moeller
Sgt. William Gallegos
Sgt. Kevin Hermening
Sgt. Steven Kirtley
Sgt. Paul E. Lewis
Sgt. James M. Lopez
Sgt. John McKeel, Jr.
Sgt. Gregory Persinger
Sgt. Rodney V. Sickmann

# You Can't Keep a Good Airplane Down

by Capt. Dick Knott

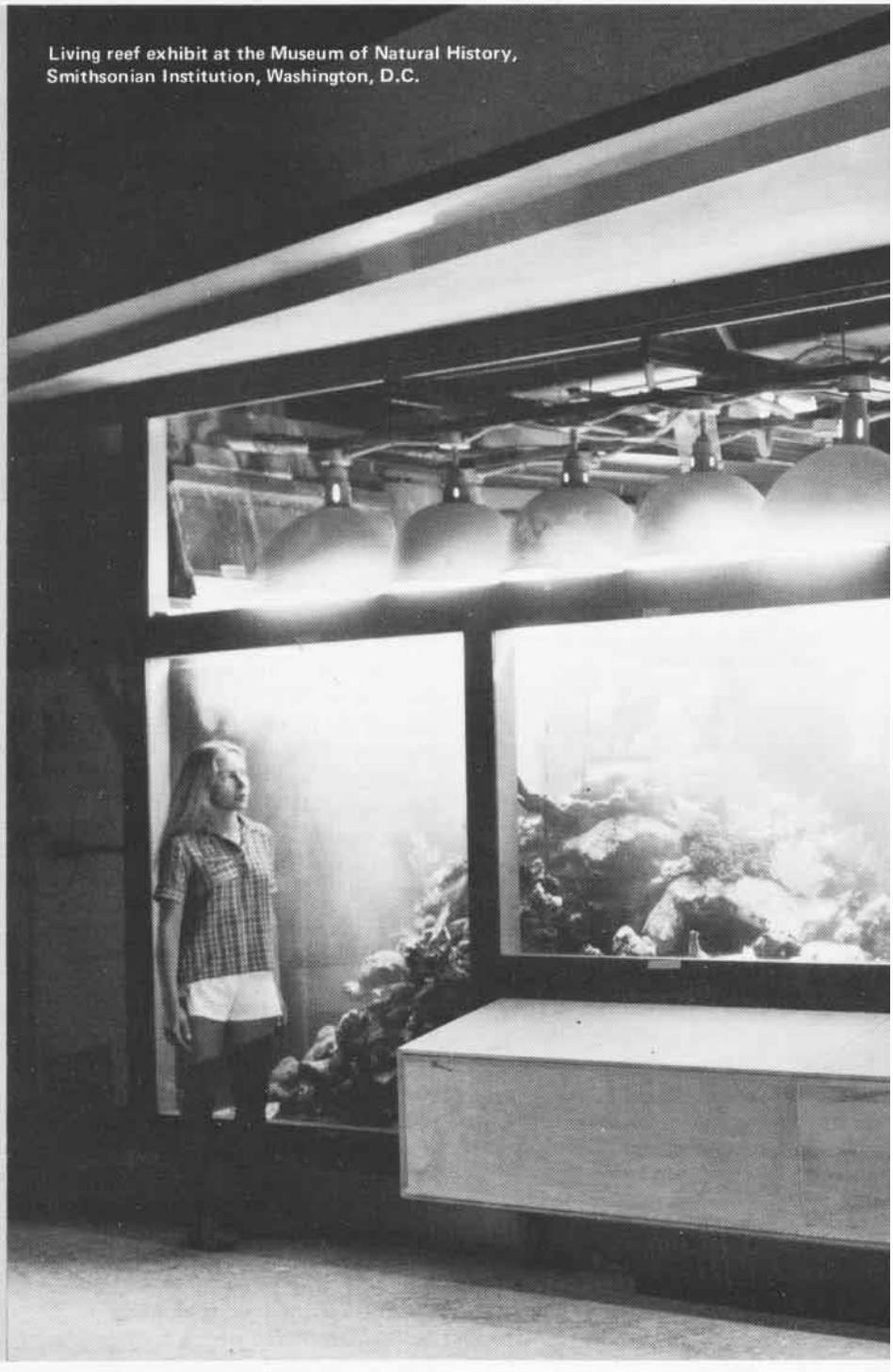
In November 1976, *Naval Aviation News* dutifully reported the passing of the Grumman HU-16 from active service. Accompanying the short item on page 29 was a photograph showing the last of the Navy's *Albatross* aircraft, BuNo 141266, making "its final water landing in Pensacola Bay." The plane was subsequently turned over to the Naval Aviation Museum at Pensacola for static display. Ordinarily that would have been the end of the story but, in this case, circumstances combined to bring the old albatross out of retirement and give her a new lease on life.

Enter retired Naval Aviation Pilot Lou Petersen of the Smithsonian Institution. Petersen had had a color-

ful career in Naval Aviation with vast experience in float planes, flying boats and amphibians. A survivor of the attack on Pearl Harbor on December 7, 1941, he was also pilot of the Grumman J2F *Duck*, which photographed the surrender ceremony in Tokyo Bay from the air in 1945. His logbook shows qualifications in SOC, OS2U, J2F, P2Y, PBY, PBM, PB2Y, JRF, P5M and HU-16 seaplanes and amphibians, and he quit counting flight hours some years ago when he reached 10,000.

As Chief Pilot for the Marine Systems Laboratory of the Smithsonian Institution, Petersen began looking for airplanes which could be easily adapted to the marine research mission. He quickly uncovered two HU-16 *Albatross* aircraft at the Naval Aviation Museum and the museum's director, Captain Grover Walker, USN(Ret.), readily agreed that the flying boats should continue to serve active lives. He released them to the Smithsonian with the Navy retaining title to one aircraft.

In November 1979, Petersen ferried the first of the two amphibians, BuNo 141226, to Stuart Airport where the old bird was rehabilitated and made airworthy under a contract with Grumman Aerospace, Inc. By the 16th of January, work was completed and the newly painted blue and white *Albatross* with a big SMITHSONIAN lettered on the side took off on its



Living reef exhibit at the Museum of Natural History, Smithsonian Institution, Washington, D.C.

Above, Navy Albatross 1266 shortly before her "retirement" at Pensacola. Above right, retired NAP Lou Petersen has a way with airplanes – especially old Navy airplanes.

first research mission.

Since that time, 1266 has lent its special talents to assist in a comprehensive reef studies project in the Bahamas and the Caribbean Sea. There she worked closely with *Marsys Resolute*, a 100-foot research vessel, captained by Dr. Walter Adey, a distinguished geologist and leader of the expedition. The objective of the project was not only to conduct extensive studies of the workings of coral reefs, but to actually transfer a portion of a living reef, along with associated life forms, to a specially prepared tank in the Washington, D.C. museum. There, natural conditions would be duplicated almost exactly, an absolute necessity for the reef to survive.

It was a mammoth undertaking. Examples of more than 300 species of animal, fish and plant life had to be carefully and expeditiously transported to achieve the desired result. If all this could be accomplished successfully, science and technology would be provided with a living laboratory with which to probe the secrets of the undersea world.

Working among the reefs was a hazardous operation for the research vessel and the *Albatross* was employed to locate channels from the air and guide *Marsys Resolute* to safe anchorages. While the scientists worked on the reef, the *Albatross* with a motion picture crew filmed the operation from the air for a documentary presentation.

Frequently, Petersen was called upon to fly scientific investigators to other nearby reefs, where they conducted their work from a Zodiac boat carried aboard the aircraft. At night the plane was moored near the ship, which doubled as a seaplane tender.

It was difficult work, but was not without humorous, if distracting, moments. One day off the coast of Haiti, the researchers were approached by a gunboat which, without the aid of an airborne spotter, had to be slowly guided to *Marsys Resolute* by a fishing boat under oarpower. The captain of the gunboat threatened the startled scientists with arrest for conducting experiments in Haitian territorial waters without permission.

**Above left, a Zodiac boat is loaded aboard the Albatross. Above, old 1266 sports a new civilian registration number and a new paint job.**

Petersen and Adey immediately cranked up the old *Albatross* and flew to Cap Haitien, where they were able to satisfy authorities that proper diplomatic clearance had, in fact, been obtained.

In the Bahamas there was yet another misunderstanding. The scientists had been observed, by fishermen, transferring plastic bags with unidentifiable contents from the ship to the aircraft. Arriving sometime later at Nassau, Petersen and crew were met by local police and placed under arrest as drug smugglers.

Reef researchers? A likely story!

Luckily the international prestige of the Smithsonian Institution prevailed, the researchers' credentials were quickly established and they were soon on their way home with a load of perishable specimens for the museum tank. *Marsys Resolute* followed with the remaining specimens. Petersen delivered his cargo to the museum and awaited the arrival of the research vessel.

But *Marsys Resolute* was encountering mechanical difficulties en route and suffered an engine breakdown halfway between the Bahamian island of Eleuthera and Cape Fear on the coast of North Carolina. There was no danger to the ship or crew, but the living specimens could not survive a lengthy delay. A call for help went out in the middle of the night to Petersen and his venerable old flying boat amphibian and the next day the remaining perishable items were rescued and flown back to Washington.

Today, thanks to the sprightly old *Albatross*, the first living reef to survive far from its natural habitat is on display to the public in the Museum of Natural History, Smithsonian Insitution, Washington, D.C. The unusual exhibit is also under constant study by scientists who believe that it may help to solve some of man's most persistent problems.

And the work of the *Albatross* is not over yet. A current project is investigating the mysteries of cold water reefs along the rocky coast of Maine.Then, a round-the-world research expedition is planned, in which the HU-16 will have a major part.

You just can't keep a good airplane down!

# Letters

## Evacuation Drill

While reading your magazine, I came across the "Touch and Go" article (December 1980), and am very proud to say that I participated in the evacuation drill aboard the C-9B. I was the planted "crazy man" who went totally "berserk" until I was tackled by a "giant chief."

YNSN David Watters
HS-85
NAS Alameda, CA 94501

## Oldest N3N in Service?

The enclosed photo was taken at El Bosque Airport near Santiago, Chile, the overhaul and repair facility for the Chilian Air Force. This is without a doubt the oldest N3N still in service with any military organization. The aircraft is serial #0719. The landing gear has been completely redesigned and this makes identification more difficult.

The aircraft is awaiting overhaul and therefore I assume a few more years of service is expected from this vintage plane. The Chilian Air Force apparently used it in air shows and as an acrobatics trainer.

Louis Petersen, Chief Pilot
Marine Systems Laboratory
Smithsonian Institution

## The Naval Reserve Team

I read with particular interest the article in your November 1980 issue on the C-131Hs flown by VR-48. The personnel of VR-52 did an outstanding job in accomplishing an out-of-the-ordinary transition. The equally outstanding job accomplished by Naval Air Systems Program officers also deserves mention. The program is sponsored by Commander, Naval Air Systems Command. Its units are located at NavAir headquarters and field activities, and its officers are designated primarily aeronautical engineering or maintenance duty.

Working under PMA-271, officers on AcDuTra undertook the task of specifying the C-131H logistic supply support, which was formidable because the C-131H was a former presidential fleet aircraft, uniquely configured, one-of-a-kind, out-of-production, and previously 100 percent supported by commercial contracts which had expired. OpNav's urgent priority to establish C-131H logistics supply support further contributed to the complexity of the task. Yet, in a relatively short time, officers of the Air Systems Program specified and implemented the C-131H operational logistic supply support. It is important that, in Naval Reserve team accomplishments, proper recognition is given to all the Naval Reserve team players.

LCdr. John Lopez III, USNR-R
WEPSYS 0370
NAS Dallas, TX 75211

## Reunions

**U.S. Naval Test Pilot School's** thirty-third annual reunion and symposium wil take place May 2, 1981, at NATC Patuxent River, Maryland.

**Association of Naval Aviation** annual convention will be held at the Sheraton Hotel, Dallas, Texas, May 14-17. Navy and Marine squadrons are encouraged to hold their reunions concurrently with the ANA convention. Please contact M. Blaylock, 1309 Canterbury Ct., Arlington, TX 76013, (214) 266-5380; or G. W. Brown, 2412 Graham Drive, South, Arlington, TX 76013, (817) 461-8117.

**USS Blackhawk and attached DESRONS 5 and 29** personnel, 1922-1946, reunion will be held at the Royal Quality Inn, San Diego, California, May 7-10. Write Harold A. Marticke, 434 Elm Ave., Chula Vista, CA 92010, or phone (714) 426-9526.

**Navy Air Transport Squadrons, Inc.**, annual reunion May 1981 in Dallas, Texas. For information, contact Capt. Alvin R. May, Jr., USNR(Ret.), 1015 West South Avenue, Independence, MO 64050. (816) 252-8466.

**Marine Aviation:** Annual reunion of all Naval Aviators, aviation ground and NAPs who have served with Marine Air, at MCAF Quantico, May 16, 1981. Contact Mrs. Judy Skinner, reservations secretary, MCAF Quantico, Va. 33134. Tel. (703) 640-2441.

**USS Fanning** (DD-385) personnel reunion is planned for April 1981 in Bakersfield, California. For further information, write Fred Winger, 3605 Truman Avenue, Bakersfield, CA 93309 or call (805) 831-9487.

## Collector

I have a collection of patches, stick-ons, decals, photographs and other items relating to the U.S. Navy and Marine Corps. These have been accumulated over a long period of time. I solicit anything that anyone might have to offer to add to my collection. I will be happy to pay any cost involved.

Robert S. Terry
1311 North Montgomery Ave.
Sheffield, AL 35660


Led by Lieutenant Colonel Kenneth J. Kelly, Marine Heavy Helicopter Squadron 772 is home-based at NAS Willow Grove, Pa. HMH-772 transitioned from a medium to a heavy helicopter squadron in May 1971. Its CH-53s are the largest in the Marine Corps inventory. The insignia depicts a stallion rising from the sea, symbolizing the reserve unit's mighty CH-53 Sea Stallion.


## squadron insignia